U.S. ARMY ENVIRONMENTAL CENTER

U.S. Army Environmental Center

FORT SHERIDAN ORDNANCE SURVEY (50 - ACRE PARCEL)

FINAL TECHNICAL REPORT

PREPARED FOR:

U.S. ARMY ENVIRONMENTAL CENTER ABERDEEN PROVING GROUND, MARYLAND

CONTRACT No. DAAA15-91-D-0015

DELIVERY ORDER No. 0003

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INTERNATIONAL TECHNOLOGY CORPORATION

August 15, 1994

Project No. 529678

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Contract No. DAAA15-91-D-0015
Delivery Order No. 3
Former Fort Sheridan UXO Survey
Final Technical Report

Dear Mr. Fendick:

Enclosed are an original and twenty-four copies of the Final Technical Report for the unexploded ordnance (UXO) survey of a 50-acre parcel at the former Fort Sheridan.

This report describes the work that was accomplished and the results of the UXO survey. If you have questions regarding this report, please call me at (703) 739-1357.

Respectfully submitted,

IT CORPORATION

Jim Pastorick
Project Manager

cc: Project file

[TSANTANA.WP.FTSHERIDAN]Fsherid.JulyTech

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FORMER FORT SHERIDAN
UNEXPLODED ORDNANCE SURVEY

FINAL TECHNICAL REPORT

PREPARED FOR

U.S. ARMY ENVIRONMENTAL CENTER
ABERDEEN PROVING GROUND, MARYLAND 21010

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Fort Sheridan is a former 695-acre U.S. Army installation located approximately 25 miles north of Chicago, on the shore of Lake Michigan. The former fort is bounded by the three communities of Lake Forest, Highland Park, and Highwood.

Under Public Law 100-526, the Defense Authorization Amendments and Base Closure and Realignment Act of 1988, Fort Sheridan was chosen for realignment and partial closure. Approximately 100 acres will be retained for use by the U.S. Army Reserves. The U.S. Navy has also purchased 200 acres in the southern portion for use as a military housing area and a 200 acres historic district is located in the middle of the former installation.

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An Enhanced Preliminary Assessment was completed in October 1989 by the U.S. Army Toxic and Hazardous Materials Agency. This report stated that explosive ordnance disposal (EOD) operations were carried out at the site until 15 years ago. The report concluded that UXO potentially exists in the area.

The United States Army Environmental Center (AEC) Base Closure Division has contracted with IT Corporation (IT) to conduct a survey to locate and identify unexploded ordnance (UXO) on a 50-acre parcel under Delivery Order No. 003 to Contract No. DAAA15-91-D0015. This site is bounded on the north by Janes Ravine, on the south by Hutchinson Ravine, on the west by Haley Army Heliport, and on the east by Lake Michigan.

The objective of this UXO survey was to assess the amount of UXO remaining on the Fort Sheridan 50-acre parcel. This was accomplished by locating, identifying, recording, and removing unexploded ordnance, within specific parameters, from the UXO survey area.

This Final Technical Report was prepared in accordance with the requirements of Data Item Description DI-S-10241 to Contract No. DAAA15-91-D-0015 and describes the results of the UXO survey of the 50-acre parcel.

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This Final Technical Report was prepared in accordance with the requirements of Data Item Description DI-S-10241 to Contract No. DAAA15-91-D-0015 and describes the results of the UXO survey of the 50-acre parcel.

1.0 Introduction

Fort Sheridan is a former 695-acre U.S. Army installation located approximately 25 miles north of Chicago, on the shore of Lake Michigan. The former fort is bounded by the three communities of Lake Forest, Highland Park, and Highwood. Figure 1 depicts the location of the former Fort Sheridan.

Under Public Law 100-526, (the Defense Authorization Amendments and Base Closure and Realignment Act of 1988), Fort Sheridan was chosen for realignment and partial closure. Approximately 100 acres will be retained for use by the U.S. Army Reserves. The U.S. Navy has also purchased 200 acres in the southeastern portion for use as a military housing area, and a 200-acre historic district is located in the middle of the former installation.

The United States Army Environmental Center (AEC) Base Closure Division has contracted with IT Corporation (IT) to conduct a survey to locate and identify unexploded ordnance (UXO) on a 50-acre parcel under Delivery Order No. 003 to Contract No. DAAA15-91-D0015. This site is bounded on the north by Janes Ravine, on the south by Hutchinson Ravine, on the west by Haley Army Heliport, and on the east by Lake Michigan. Approximately 10 acres of the 50-acre parcel have been identified as Landfill #2. Figure 2 depicts the location of the 50-acre project area.

An Enhanced Preliminary Assessment was completed in October 1989 by the U.S. Army Toxic and Hazardous Materials Agency. This report stated that explosive ordnance disposal (EOD) operations, though quite infrequent, were carried out at Landfill #2 until 15 years ago and that an area consisting of Landfill #2 and adjacent property was used as a small arms firing range prior to 1960. The report concluded that UXO potentially exists in the area.

This Final Technical Report was prepared in accordance with the requirements of Exhibit Line Item Number (ELIN) A009 to Contract No. DAAA15-91-D-0015 and describes the results of the UXO survey of the 50-acre parcel.

2.0 Discussion

The objective of this UXO survey was to assess the amount of UXO remaining on the former Fort Sheridan 50-acre parcel. This objective was accomplished by locating, identifying, recording, and removing unexploded ordnance, within specific parameters, from the UXO survey area.

The 50-acre parcel was divided into five subareas of approximately 10-acres. Figure 3 shows the locations of the five subareas. Subarea 5, which covers the boundary of Landfill #2, as determined by the Enhanced Preliminary Assessment, was further divided into subareas 5A and 5B.

2.1 Project Tasks

The UXO survey was originally intended to consist of a surface survey, using low-sensitivity magnetometers, of 100% of the survey area and excavation of detected ferrous metal items to a depth of six inches. This surface survey was to be followed by a subsurface survey, using a high-sensitivity magnetometer, of 10% of the survey area and excavation of detected ferrous metal items to a depth of four feet. The 10% survey was planned to be achieved by establishing one-meter-wide survey lanes with their centers spaced ten meters apart.

However, during the performance of the UXO survey the project goals were modified and the requirement to complete a 100% surface UXO survey and a 10% subsurface UXO survey were eliminated. IT was directed to restrict the UXO survey to several distinct areas within the original survey area. Figure 5 displays the areas that were surveyed including the sub-letter designated areas within subareas 3 and 4. Project goals were modified due to the onslaught of winter weather conditions which could hamper the survey and make for less safe survey conditions. It became questionable whether the entire project could be completed, so a small percentage of each subparcel was surveyed in order to get an idea of the number of UXO in each subparcel. Also, U.S. Army EOD support was difficult to obtain due to their other obligations during this survey effort.

The UXO survey was accomplished by performing the following tasks:

- Dividing the survey area into smaller subareas and dividing subareas 3 and 4 into three smaller survey areas
- Delineating the boundaries of wetlands
- Removing dense vegetation that impeded access for the UXO survey crews
- Inspecting the designated work areas for surface metallic objects by using low-sensitivity magnetometers and for subsurface metallic objects using a high-sensitivity magnetometer. Areas excluded from this procedure were the sites of buildings, paved surfaces, and inaccessible areas such as impassable wetlands.
- Excavating all metallic items found during the survey to a depth of six inches, for the surface survey, and to four feet, for the subsurface survey, and then identifying these items.
- Securing identified UXO until it was disposed of by the U.S. Army (EOD) unit
- Performing field quality control surveys
- Recording and documenting the results of the UXO survey with field records and site maps
- Monitoring and documenting the seismic and audio intensity of UXO disposal detonations
- Constructing a temporary fence, with warning signs, around the perimeter of the survey area.

The following sections describe in greater detail the performance of each of these general project tasks.

2.1.1 Dividing the Survey Area into Subareas

The 50-acre survey area was divided into five subareas numbered 1 through 5. Subareas 3 and 4 were further divided into three additional work areas labeled 3A, 3B, 3C, and 4A, 4B, and 4C. Subarea 5 was further divided into 5A and 5B to denote the distinct areas as separated by Nicholson Road.

The subarea boundaries were first marked in the field using highly-visible surveyor's flagging tape tied to wooden stakes and then mapped using the mapping methods described in section 2.1.8.

2.1.2 Delineating Wetland Boundaries

The project site was inspected to delineate wetland boundaries by using the methods outlined in the 1987 "U.S. Army Corps of Engineers Wetlands Delineation Manual" (Technical Report Y-87-1). The approach to wetland identification outlined in the wetlands delineation manual employs the three parameters of vegetation, soils, and hydrology to define and identify wetlands.

The identified wetlands were mapped using the technique described in Section 2.1.8 of this report, and are shown in Figure 3. The wetlands delineation memorandum report is included in Appendix A.

2.1.3 Vegetation Removal

To enable the survey and fencing crews to gain access to the required areas of the project site, minor amounts of vegetation were removed in the portions of the survey area that were wooded or contained high grasses. The vegetation removal was accomplished by using a gas-powered weedcutter.

2.1.4 UXO Survey

Two different magnetometers were used to conduct the UXO survey.

The Foerster Ferex Ordnance Locator is used by U.S. Military EOD forces, designated the MK 26 Ordnance Locator, for detecting subsurface ordnance items. The locator is a hand-held unit and uses two fluxgate magnetometers, aligned and mounted a fixed distance apart to detect changes in the earth's ambient magnetic field caused by ferrous metal or disturbances caused by soil conditions. Both an audio and metered signal are provided to the operator.

The detection capability of the Foerster Ferex Ordnance Locator is dependent upon the size of the item versus its depth. It is calibrated at the factory service center to locate ordnance to the following depths, which are verified by extensive military field use and operational testing at the EOD Technology Center, Indian Head, Maryland.

ITEM	DEPTH (ft.)
Small Arms Round	1
Hand Grenade	2
Anti-Personnel Mine	3
Anti-Tank Mine	4.5
Medium Projectile (105 mm)	10
Small Bomb	15
Large Bomb	19

Although the Foerster Ferex Ordnance Locator detects disturbances caused by changes in soil conditions, its ability to detect metallic items is not hindered by local soil conditions because of its ability to be recalibrated in the field to compensate for normal background metallic signature.

The Foerster Ferex Ordnance Locator is designed specifically for subsurface ordnance detection and is considered to be one of the standard geophysical instruments for this purpose. It is considered to be a high-sensitivity magnetometer because of its ability to detect ferrous objects to relatively great distances. Because of this, the Foerster Ferex Ordnance Locator was used as the subsurface investigation instrument and to perform quality assurance checks.

The other magnetometer used, the Schonstedt GA-52C Magnetometer, is a dual fluxgate magnetometer and operates on the same principal as the Foerster Ferex Ordnance Locator. But the Schonstedt GA-52C is not tested and approved by the U.S. Naval EOD Technology Center, and its ability to detect specific sizes of ordnance to various depths has not been scientifically tested. The Schonstedt GA-52C is an inexpensive and highly portable magnetometer and was used on this project to quickly screen surface and near-surface areas for ferrous content.

With the exception of paved areas and buildings, the designated survey areas, as shown in Figure 5, were surveyed for surface metallic objects. Schonstedt low-sensitivity magnetometers were

used by the UXO survey team to detect ferrous metallic objects. This team of UXO specialists traversed each designated work area while maintaining a line-abreast pattern and spacing close enough to ensure that adjacent search areas overlapped. The UXO specialist on one end was designated as the guide and all other members of the survey team were responsible to maintain their pace and proper spacing with the guide. A supervisor was responsible for observing the operation to ensure proper spacing and coverage of the work area.

The magnetometers were swept in a back-and-forth motion until the audible signal emitted by the magnetometer signaled the presence of a metallic object. If the metallic object was not readily visible on the surface the UXO specialist marked the object's location by inserting a pin flag into the ground and then continued with the survey. The location of the object was noted by the surface survey team supervisor for later action by the excavation team.

The subsurface survey was conducted, in the specific locations identified in Figure 6, within one-meter-wide subsurface survey lanes. The established lanes were surveyed with a Foerster Ferex high-sensitivity magnetometer and all detected items were marked with a pin flag, as previously described, for subsequent excavation.

2.1.5 UXO Excavation

Each detected subsurface object was excavated to determine its identification. During the surface UXO survey objects were hand-excavated to a maximum depth of six inches. Objects detected during the subsurface survey were hand excavated to a maximum depth of four feet. Established and proven methods of UXO hand excavation were used to excavate detected objects.

Non-UXO items were removed from the site, and the hole was immediately backfilled. UXO were identified, recorded on a UXO Accountability Log sheet, and moved to a secure holding area if they were safe to be moved. UXO that were not safe to be moved were recorded on a UXO Accountability Log sheet and left in place for disposal by military EOD personnel.

2.1.6 UXO Security

Each UXO found was entered into the project UXO accountability system. Each UXO was assigned a sequential identification number, and all data pertaining to the UXO was recorded on a UXO Accountability Log sheet. The UXO Accountability Log was used to track all movement of the UXO until final disposal of the UXO by military EOD. Appendix B lists all UXO found during the project by sequential accountability number. The UXO Accountability Log sheets are included as Appendix C. The location of each UXO found is documented in Figure 6.

UXO that were determined safe to be moved were transported to the designated secure storage area for later disposal by the U.S. Army EOD team. UXO that were not safe to be moved were kept secure by an IT UXO specialist who stood a 24-hour watch over them until the UXO was disposed of by the U.S. Army EOD team.

2.1.7 Field Quality Control

Quality control (QC) UXO surveys were originally planned to ensure the completeness and accuracy of the UXO survey. The subsurface UXO survey was to have served as the QC check of the surface UXO survey.

This approach was changed when the project goals were modified from performing a UXO survey on 100% of the work area to performing quick surface and subsurface spot-checks of certain designated areas. This resulted in a reduction in the amount of subsurface UXO survey, and therefore a reduction in the amount of surface survey QC, that was performed. The complete and approved subsurface survey plan and QC plan was implemented in the block of subarea 2 in the vicinity of E-4/5 shown on Figure 6. Although a subsurface survey was conducted in other portions of the project area it was not accomplished in accordance with the approved QC plan and, therefore, should not be considered as assurance of the quality of the surface survey conducted in these areas.

Project goals were modified due to the onset of winter weather conditions which could hamper the survey conditions. It became questionable whether the entire project could be completed, so a small percentage of each subparcel was surveyed in order to get an idea of the number of UXO in each subparcel. Also, U.S. Army EOD support was difficult to obtain due to their other obligations during this survey effort.

2.1.8 Recording and Documenting the Survey

A computerized data base was maintained throughout the project. The satellite navigation Global Positioning System was interfaced with the data management system to record field data including mapping data. Then the project maps were produced utilizing an Autocad interface to the data base. Data maintenance is described in greater detail in Section 3.0 of this report.

2.1.9 Monitoring UXO Disposal Detonations

The seismic and audio impacts of all five UXO disposal detonations, performed by the U.S. Army EOD unit, were monitored and recorded. Two Geosonics SSU 2000 DK seismographs were stationed within a one mile radius of the detonation site at the locations shown on Figure 4. The seismograph data from the five UXO disposal detonations, and interpretation of the data done by the seismograph manufacturer, are reproduced in Appendix D.

2.1.10 Constructing a Temporary Fence and Posting Warning Signs

Modification No. 001 was issued to the original delivery order for the construction of a temporary rental fence around the survey area and the posting of warning signs on the fence. In May, 1994 the western portion of the fence was moved to its current position to allow public access to the previously fenced portion of the golf course. The fence was also purchased by the U.S. Army.

3.0 Documentation

The results of the previously-described field activities are documented in this report. Figure 3 shows:

- Project and subarea boundaries
- The location of the temporary fence
- The location of wetlands

Figure 4 shows:

- The project site boundary
- The location of UXO disposal detonations
- The location of the two seismographs

Figure 5 shows:

- The project site boundary
- The temporary fence location
- Subarea boundaries
- Surface UXO survey areas completed
- The location of UXO disposal detonations

Figure 6 shows:

- The project site boundary
- The temporary fence location
- Subarea boundaries
- Subsurface UXO survey areas completed
- The location, identification, and depth for 14 UXO detected during the project
- The location of UXO

4.0 Summary

This Final Technical Report details the results of the UXO survey at the former Fort Sheridan, IL. Fort Sheridan has been closed under Public Law 100-526, the Defense Authorization Amendments and Base Closure and Realignment Act of 1988. The objective of this UXO survey was to determine the extent of UXO contamination at the site by finding, identifying, and removing UXO on the 50-acre site. UXO removal was performed by a military EOD unit. The removal method chosen was on-site detonation because transportation of UXO off site was considered to be too hazardous. The locations of the former Fort Sheridan and the project site are shown in Figures 1 and 2.

The UXO survey was conducted during October and November 1993 and consisted of surface and subsurface surveys. The surface survey was planned to be accomplished by surveying all accessible land surface, divided into smaller manageable units called subareas, using low-sensitivity magnetometers. This plan was modified to a sample approach using spot surveys to verify the presence of UXO. Therefore, the 50-acre area was not completely surveyed. Suspected UXO were excavated to a depth of six inches.

The subsurface UXO survey was accomplished by using a high-sensitivity magnetometer. These instruments were planned to be employed in parallel one-meter-wide lanes. As with the surface survey, the subsurface survey plan was modified from surveying parallel one-meter-wide lanes, the centers of which were spaced ten meters apart, to conducting limited spot sampling of areas most likely to contain UXO. Suspected UXO were excavated to a depth of four feet.

All UXO located were disposed of onsite by the U.S. Army EOD 88th team from Fort McCoy, Wisconsin.

Maps of the survey area, depicting the location of UXO, were produced from data acquired with electronic navigating and recording instruments. Navigation and map data gathering was accomplished using the global positioning system satellite constellation. An Autocad interface to the data base was used to produce the site maps that accompany the report in Figures 3 through 6.

A rental fence was constructed around the project site, and warning signs were hung on it, to keep out unauthorized people who could be injured by any UXO remaining at the site. In May, 1994 the western portion of the fence was moved to its current position to allow public access to the previously fenced portion of the golf course. The fence was purchased by the U.S. Army.

5.0 Conclusion

The UXO survey established that UXO is likely to be present in subparcels 1 and 2 at the project site. The systematic and complete survey that was originally planned was modified due to circumstances encountered at the project site. These modifications lessened the thoroughness of the UXO survey by excluding portions of the 50-acre parcel from the survey.

The most thorough UXO survey was done in subarea 2, and that is also the subarea where most of the UXO was found. Subareas 1, 3, 4, and 5 received a much-less-thorough UXO survey because of modifications to the project objectives after the beginning of the project. Consequently, the fact that less UXO was found in these areas should not be construed to indicate a low likelihood that UXO is present there.

The 50-acre parcel appears to have been used as a mortar impact area. Mortars are notoriously inaccurate and usually will be found over a wide ranging target area. Thus, it is highly likely that more UXO, particularly 3" Stokes mortars, still remain on the 50-acre parcel.

The M4 land mine was a puzzling find. There is no other indication that this area was ever mined.

Several of the 3" Stokes mortars that were found were fuzed and explosively loaded making them subject to detonation if disturbed. Additionally, most of these UXO were discovered either within six inches of the surface or on the surface. One was protruding from the ground in a fuze-up attitude and could have exploded if struck by a grass mower or golf club.

Upon review of the findings of this UXO survey, the Huntsville Division of the U.S. Army Corps of Engineers, the U.S. Army Corps of Engineers Mandatory Center of Expertise for Ordnance and Explosive Waste, has determined that the possibility of the presence of UXO in subareas 3 and 4 does not pose an imminent safety hazard to golfers.[1]

[1]Memorandum from Mr. Lawson S. Lee, Hunstville Division, U.S. Army Corps of Engineers, to Mr. Russell Fendick, U.S. Army Environmental Center, March 11, 1994.

5.1 Analysis of the Subsurface Survey

The subsurface UXO survey was originally designed to offer an economical "slice-of-the-pie" view of the portion of the survey area between six inches and four feet in depth. Although the magnetometers used during the surface UXO survey are capable of detecting ferrous metal items deeper than six inches, excavation to a maximum depth of six inches was specified in the project statement of work.

The 10% subsurface survey indicates whether UXO is present within 6 to 48 inches of the surface. If UXOs is detected during the 10% subsurface survey, there is an increased probability that anomalies detected below 6 inches during the surface survey are also UXO.

This planned subsurface protocol was only completed in the block shown in Figure 6 in subarea 2 (E-4/5). Three subsurface UXO (Numbers 2, 13, and 14) were located in this small area. This is a strong indicator that, based on the designed use of the subsurface survey, it can be assumed that there is a high probability of more subsurface UXO remaining in the vicinity of subareas 1 and 2. Upon review of the findings of this UXO survey, the Huntsville Division of the U.S. Army Corps of Engineers, the U.S. Army Corps of Engineers Mandatory Center of Expertise for Ordnance and Explosive Waste, has determined that the probability of the existence of additional UXO within subareas 3 and 4 is so low that no further action is required.[2]

[2]Memorandum from Mr. Lawson Lee, Huntsville Division, U.S. Army Corps of Engineers, to Mr. Lambert, Louisville District, U.S. Army Corps of Engineers, of January 14, 1994.

APPENDIX A

INTERNATIONAL TECHNOLOGY CORPORATION

Memorandum

To: Jim Pastorick, Project Manager

Date: January 14, 1994

From: Ronald Prann

Subject: Ft. Sheridan Wetlands

On October 25 and 26 , 1993 a wetland investigation was conducted on a 50 acre parcel of Ft. Sheridan. This investigation coincided with the UXO survey that was being conducted on the same parcel. The wetlands investigation was conducted following the guidelines established in the 1987 ACOE Wetland Delineation Manual. This manual bases its wetland determination on three criteria; soils, vegetation, and hydrology. Under normal circumstances positive indicators of the three criteria must be present for the area to be classified as a wetland.

The field investigation resulted in the delineation of three areas as wetlands. The most dominate wetland feature on site was the storm water pond. This small body of open water was surrounded by a narrow band of emergent vegetation. A narrow drainage channel feeding the pond was also identified as a wetlands, as well as an isolated pocket adjacent to the pond (refer to wetland boundary survey map). The vegetation encountered in these areas was that of typical wetland species and therefore was determined to have a positive indicator. The soils were a heavy silty clay and grey in color which is typical for hydric or wetland soils. The hydrology of the wetlands on site was determined to be positive of a wetland system, due to the standing water noted during the field investigation. The heavy soils also delay any percolation that may occur, therefore benefiting the wetland system.

The majority of the site was a level upland terrace leading to a steep embankment grading into Lake Michigan. The site contained numerous buildings, a parking lot, a maintained lawn with scattered oaks.

APPENDIX B

TABULAR LISTING OF UXO LOCATED

UXO #	Type	Depth
1	3" Stokes Mortar, Fuze Missing	6"
2	3" Stokes Mortar, Fuze Intact	8"
3	3" Stokes Mortar, Fuze Missing	4"
4	3" Stokes Mortar, Fuze Missing	6"
5	3" Stokes Mortar, Fuze Intact	6"
6	3" Stokes Mortar, Fuze Missing	3"
7	3" Stokes Mortar, Fuze Intact	6"
8	M6A5 Rifle Grenade, Fuze Intact	6"
9	3" Stokes Mortar, Fuze Missing	Surface
10	3" Stokes Mortar, Fuze Intact	3"
11	75 MM Projectile	3"
12	M4 Land Mine, Fuze Missing	3"
13	3" Stokes Mortar, Fuze Missing	12"
14	3" Stokes Mortar, Fuze Missing	10"

APPENDIX C

FIGURE 6
UXO ACCOUNTABILITY FORM

Found 1445 10-30-93

Fort Sheridan UXO Survey

Directions: Complete one (1) Excavation/Accountability Form for each UXO located.

ITEM NUMBER: 1 SUBAREA: _____

SUSPECTED DEPTH OF ITEM: _____ (To be completed after GPR measurements)

DEPTH AT WHICH ITEM WAS LOCATED: APPRX"

MEMBERS OF EXCAVATION TEAM: BRIAN SUNDERMAN CHARLES CRAWFORD

IDENTIFICATION OR FEATURES OF ITEM:
3" STOKES MORTAR W/ FUZE MISSING

NOTES:
TRANSPORTED TO STORAGE AREA

FINAL DISPOSAL ACTION: Removal ____ Detonation X Other ____

REMOVAL/DISPOSAL CERTIFIED BY: Charles L. Crawford (Signature of Army EOD Technician)

DATE/TIME OF REMOVAL/DETONATION: 10-27-93 1430HRS

AREA BACKFILLED: _____ (Initials of UXO Technician performing certification)

VERIFICATION OF REMOVAL/DETONATION/BACKFILL: _____
(Signature of QA Officer)

Found UXO 10-[illegible]

FIGURE 6
UXO ACCOUNTABILITY FORM

Fort Sheridan UXO Survey

Directions: Complete one (1) Excavation/Accountability Form for each UXO located.

ITEM NUMBER: 2 SUBAREA: _____

SUSPECTED DEPTH OF ITEM: _____ (To be completed after GPR measurements)

DEPTH AT WHICH ITEM WAS LOCATED: APPRX 8-10"

MEMBERS OF EXCAVATION TEAM: BRIAN SUNDERLMAN, CARLOS CRAWFORD

IDENTIFICATION OR FEATURES OF ITEM:
3" STOKES MORTAR W/ FUZE

NOTES:
FUZE CONTAINED A BORE RIDING SAFETY WHICH WAS IN PLACE AND WHICH WE SECURED IN PLACE TO INSURE IT WOULD NOT ACCIDENTLY MOVE IF TRANSPORTED
TRANSPORTED TO STORAGE AREA

FINAL DISPOSAL ACTION: Removal ____ Detonation X Other ____

REMOVAL/DISPOSAL CERTIFIED BY: [signature] (Signature of Army EOD Technician)

DATE/TIME OF REMOVAL/DETONATION: 10-28-93 / 1920 HRS

AREA BACKFILLED: _____ (Initials of UXO Technician performing certification)

VERIFICATION OF REMOVAL/DETONATION/BACKFILL: _____
(Signature of QA Officer)

FIGURE 6
UXO ACCOUNTABILITY FORM

Found 0830 10-27-93

Fort Sheridan UXO Survey

Directions: Complete one (1) Excavation/Accountability Form for each UXO located.

ITEM NUMBER: 3 SUBAREA: _____

SUSPECTED DEPTH OF ITEM: _____ (To be completed after GPR measurements)

DEPTH AT WHICH ITEM WAS LOCATED: 4-6"

MEMBERS OF EXCAVATION TEAM: BRADSHAW and SUNDERMAN

IDENTIFICATION OR FEATURES OF ITEM:
3" STOKES MORTAR w/FUZE MISSING

NOTES:
TRANSPORT TO STORAGE AREA

FINAL DISPOSAL ACTION: Removal ____ Detonation X Other ____

REMOVAL/DISPOSAL CERTIFIED BY: [signature] (Signature of Army EOD Technician)

DATE/TIME OF REMOVAL/DETONATION: 10-28-93 1430 HRS

AREA BACKFILLED: _____ (Initials of UXO Technician performing certification)

VERIFICATION OF REMOVAL/DETONATION/BACKFILL: _____
(Signature of QA Officer)

Found 09 5 10-27-

FIGURE 6
UXO ACCOUNTABILITY FORM

Fort Sheridan UXO Survey

Directions: Complete one (1) Excavation/Accountability Form for each UXO located.

ITEM NUMBER: 4 SUBAREA: _____

SUSPECTED DEPTH OF ITEM: _____ (To be completed after GPR measurements)

DEPTH AT WHICH ITEM WAS LOCATED: 6"

MEMBERS OF EXCAVATION TEAM: SUNDERMAN - BRADSHAW

IDENTIFICATION OR FEATURES OF ITEM:
3" STOKES MORTAR W/O FUZE

NOTES:
WILL TRANSPORT TO SHA

FINAL DISPOSAL ACTION: Removal ____ Detonation X Other ____

REMOVAL/DISPOSAL CERTIFIED BY: [signature] (Signature of Army EOD Technician)

DATE/TIME OF REMOVAL/DETONATION: 10-28-93 1410 HRS

AREA BACKFILLED: _____ (Initials of UXO Technician performing certification)

VERIFICATION OF REMOVAL/DETONATION/BACKFILL: _____
(Signature of QA Officer)

FOUND 0935

FIGURE 6
UXO ACCOUNTABILITY FORM

Fort Sheridan UXO Survey

Directions: Complete one (1) Excavation/Accountability Form for each UXO located.

ITEM NUMBER: 5 SUBAREA: _____

SUSPECTED DEPTH OF ITEM: _____ (To be completed after GPR measurements)

DEPTH AT WHICH ITEM WAS LOCATED: 6"

MEMBERS OF EXCAVATION TEAM: COLEMAN PARSONS

IDENTIFICATION OR FEATURES OF ITEM:
3" STOKES MORTAR W/ FUZE

NOTES:
CONTACTED JIM PASTORIK - HE WILL MAKE NECESSARY CALLS ON THIS ITEM - ITEM WILL NOT BE MOVED BY IT UXO TEAM -

FINAL DISPOSAL ACTION: Removal ____ Detonation X Other ____

REMOVAL/DISPOSAL CERTIFIED BY: [signature] (Signature of Army EOD Technician)

DATE/TIME OF REMOVAL/DETONATION: 10-28-93 / 1410 HRS

AREA BACKFILLED: _____ (Initials of UXO Technician performing certification)

VERIFICATION OF REMOVAL/DETONATION/BACKFILL: _____
(Signature of QA Officer)

FIGURE 6
UXO ACCOUNTABILITY FORM

FOUND

Fort Sheridan UXO Survey

Directions: Complete one (1) Excavation/Accountability Form for each UXO located.

ITEM NUMBER: 6 SUBAREA: _____

SUSPECTED DEPTH OF ITEM: _____ (To be completed after GPR measurements)

DEPTH AT WHICH ITEM WAS LOCATED: 3"

MEMBERS OF EXCAVATION TEAM: BRADSHAW - SANDERMAN

IDENTIFICATION OR FEATURES OF ITEM:
3" STOKES MORTAR W/O FUZE

NOTES:

FINAL DISPOSAL ACTION: Removal ____ Detonation X Other ____

REMOVAL/DISPOSAL CERTIFIED BY: [signature] (Signature of Army EOD Technician)

DATE/TIME OF REMOVAL/DETONATION: 10-28-93 1350 HRS

AREA BACKFILLED: _____ (Initials of UXO Technician performing certification)

VERIFICATION OF REMOVAL/DETONATION/BACKFILL: _____
(Signature of QA Officer)

FIGURE 6
UXO ACCOUNTABILITY FORM

Fort Sheridan UXO Survey

Directions: Complete one (1) Excavation/Accountability Form for each UXO located.

ITEM NUMBER: _____ SUBAREA: _____

SUSPECTED DEPTH OF ITEM: _____ (To be completed after GPR measurements)

DEPTH AT WHICH ITEM WAS LOCATED: 6"

MEMBERS OF EXCAVATION TEAM: COLEMAN - PARSON

IDENTIFICATION OR FEATURES OF ITEM:
3" STOKES W/ FUZE

NOTES:

FINAL DISPOSAL ACTION: Removal ____ Detonation ____ Other ____

REMOVAL/DISPOSAL CERTIFIED BY: [signature] (Signature of Army EOD Technician)

DATE/TIME OF REMOVAL/DETONATION: 10-08-93 1350 HRS

AREA BACKFILLED: _____ (Initials of UXO Technician performing certification)

VERIFICATION OF REMOVAL/DETONATION/BACKFILL: _____
(Signature of QA Officer)

FIGURE 6
UXO ACCOUNTABILITY FORM

Found 1330 10-27-93

Fort Sheridan UXO Survey

Directions: Complete one (1) Excavation/Accountability Form for each UXO located.

ITEM NUMBER: 8 SUBAREA: _____

SUSPECTED DEPTH OF ITEM: _____ (To be completed after GPR measurements)

DEPTH AT WHICH ITEM WAS LOCATED: 6"

MEMBERS OF EXCAVATION TEAM: COLEMAN - PARSONS

IDENTIFICATION OR FEATURES OF ITEM:
RIFLE GRENADE - M6A5
CANNOT DETERMINE FUZE CONDITION - MUST ASSUME
SINCE FIRED - ARMED

NOTES:

FINAL DISPOSAL ACTION: Removal ____ Detonation X Other ____

REMOVAL/DISPOSAL CERTIFIED BY: [signature] (Signature of Army EOD Technician)

DATE/TIME OF REMOVAL/DETONATION: 10-25-93 1350 NCS

AREA BACKFILLED: _____ (Initials of UXO Technician performing certification)

VERIFICATION OF REMOVAL/DETONATION/BACKFILL: _____
(Signature of QA Officer)

FIGURE 6
UXO ACCOUNTABILITY FORM

Fort Sheridan UXO Survey

Directions: Complete one (1) Excavation/Accountability Form for each UXO located.

ITEM NUMBER: 9 SUBAREA: A

SUSPECTED DEPTH OF ITEM: _____ (To be completed after GPR measurements)

DEPTH AT WHICH ITEM WAS LOCATED: ON SURFACE

MEMBERS OF EXCAVATION TEAM: GUEMAN-PARSONS

IDENTIFICATION OR FEATURES OF ITEM:
3" STOKES MORTAR W/OUT FUZE

NOTES:

FINAL DISPOSAL ACTION: Removal ____ Detonation X Other ____

REMOVAL/DISPOSAL CERTIFIED BY: [signature] (Signature of Army EOD Technician)

DATE/TIME OF REMOVAL/DETONATION: 19/1500 3 NOV 93

AREA BACKFILLED: _____ (Initials of UXO Technician performing certification)

VERIFICATION OF REMOVAL/DETONATION/BACKFILL: _____
(Signature of QA Officer)

FIGURE 6
UXO ACCOUNTABILITY FORM

Fort Sheridan UXO Survey

Directions: Complete one (1) Excavation/Accountability Form for each UXO located.

ITEM NUMBER: 10 SUBAREA: 2A

SUSPECTED DEPTH OF ITEM: _____ (To be completed after GPR measurements)

DEPTH AT WHICH ITEM WAS LOCATED: 3"

MEMBERS OF EXCAVATION TEAM: COLEMAN-PARSONS

IDENTIFICATION OR FEATURES OF ITEM:
3" STOKES MORTAR WITH FUZE

NOTES:

FINAL DISPOSAL ACTION: Removal ____ Detonation X Other ____

REMOVAL/DISPOSAL CERTIFIED BY: [signature] (Signature of Army EOD Technician)

DATE/TIME OF REMOVAL/DETONATION: 1715 HRS 2 NOV 93

AREA BACKFILLED: _____ (Initials of UXO Technician performing certification)

VERIFICATION OF REMOVAL/DETONATION/BACKFILL: _____
(Signature of QA Officer)

FIGURE 6
UXO ACCOUNTABILITY FORM

Fort Sheridan UXO Survey

Directions: Complete one (1) Excavation/Accountability Form for each UXO located.

ITEM NUMBER: 11 SUBAREA: _____

SUSPECTED DEPTH OF ITEM: _____ (To be completed after GPR measurements)

DEPTH AT WHICH ITEM WAS LOCATED: 5"

MEMBERS OF EXCAVATION TEAM: SUNDERMAN - TERADSHAW

IDENTIFICATION OR FEATURES OF ITEM:
75MM PROJECTILE W/HEX NUT IN CENTER OF FRONT END OF ORDNANCE.

NOTES:

FINAL DISPOSAL ACTION: Removal ____ Detonation ____ Other x TRANSPORTED BACK TO 83RD EOD BY SSG TOGI

REMOVAL/DISPOSAL CERTIFIED BY: _____ (Signature of Army EOD Technician)

DATE/TIME OF REMOVAL/DETONATION: _____

AREA BACKFILLED: _____ (Initials of UXO Technician performing certification)

VERIFICATION OF REMOVAL/DETONATION/BACKFILL: _____
(Signature of QA Officer)

FIGURE 6
UXO ACCOUNTABILITY FORM

Fort Sheridan UXO Survey

Directions: Complete one (1) Excavation/Accountability Form for each UXO located.

ITEM NUMBER: 12 SUBAREA: _____

SUSPECTED DEPTH OF ITEM: _____ (To be completed after GPR measurements)

DEPTH AT WHICH ITEM WAS LOCATED: 3 - 4"

MEMBERS OF EXCAVATION TEAM: SUNDERMAN - BRADSHAW

IDENTIFICATION OR FEATURES OF ITEM:
SPIDER MINE (GERMAN) (?) TELLER MINE (?)
APPR 8" IN DIAMETER - 2" THICK
POSSIBLY U.S. M4 W/ M1 PRESSURE PLATE CONFIRMED

NOTES:

FINAL DISPOSAL ACTION: Removal ____ Detonation X Other ____

REMOVAL/DISPOSAL CERTIFIED BY: [signature] (Signature of Army EOD Technician)

DATE/TIME OF REMOVAL/DETONATION: 4 NOV 93 12:17 HRS

AREA BACKFILLED: _____ (Initials of UXO Technician performing certification)

VERIFICATION OF REMOVAL/DETONATION/BACKFILL: _____
(Signature of QA Officer)

FIGURE 6
UXO ACCOUNTABILITY FORM

Found 15 NOV 93
11:15 AM

Fort Sheridan UXO Survey

Directions: Complete one (1) Excavation/Accountability Form for each UXO located.

ITEM NUMBER: 13 SUBAREA: 2A

SUSPECTED DEPTH OF ITEM: _____ (To be completed after GPR measurements)

DEPTH AT WHICH ITEM WAS LOCATED: 12"

MEMBERS OF EXCAVATION TEAM: FINDLEY- BRADSHAW

IDENTIFICATION OR FEATURES OF ITEM:
3 STOKES MORTAR WITH OUT FUZE

NOTES:

FINAL DISPOSAL ACTION: Removal ____ Detonation X Other ____

~~REMOVAL~~/DISPOSAL CERTIFIED BY: [signature] (Signature of Army EOD Technician)

DATE/TIME OF REMOVAL/DETONATION: 11:32 HRS 23 NOV 93

AREA BACKFILLED: _____ (Initials of UXO Technician performing certification)

VERIFICATION OF REMOVAL/DETONATION/BACKFILL: _____
(Signature of QA Officer)

Found 0740
11-18-93

FIGURE 6
UXO ACCOUNTABILITY FORM

Fort Sheridan UXO Survey

Directions: Complete one (1) Excavation/Accountability Form for each UXO located.

ITEM NUMBER: 14 SUBAREA: _____

SUSPECTED DEPTH OF ITEM: _____ (To be completed after GPR measurements)

DEPTH AT WHICH ITEM WAS LOCATED: 10"

MEMBERS OF EXCAVATION TEAM: CRAWFORD & FINLEY

IDENTIFICATION OR FEATURES OF ITEM:
3" STOKES MORTAR W/O FUZE

NOTES:

FINAL DISPOSAL ACTION: Removal ____ Detonation X Other ____

REMOVAL/DISPOSAL CERTIFIED BY: Charles L. Crawford (Signature of Army EOD Technician)

DATE/TIME OF REMOVAL/DETONATION: 11:22 NOV 23 NOV 93

AREA BACKFILLED: _____ (Initials of UXO Technician performing certification)

VERIFICATION OF REMOVAL/DETONATION/BACKFILL: _____
(Signature of QA Officer)

APPENDIX D

** SAFEGUARD SEISMIC UNIT 2000DK **
SN:2160
CONTINUOUS SEISMIC & LINEAR SOUND MODE
Thursday, 10/28/93 14:46:04

Client: USAEC
Operation: FT.SHERIDAN
SSU Location: NORTH CORNER
Distance to Blast: 700
Operator: RRP IT CORP.
Comments: SHOT #1
Report Interval: 6 (30 min)

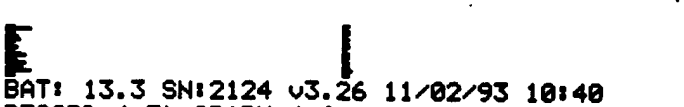
	SOUND			SEISMIC	
100	dB	140	0.00	in/sec	1.28

BAT: 13.0 SN:2160 v3.30 10/28/93 15:13
RECORD < 5> GRAPH < 6 in> COPIES <1>
OSM CHARTS <DISABLED> DISK COPIES <1>
EVENT HOLD <DISABLED> ALARM <DISABLED>
TRIGGERS: SEIS <0.02> SOUND < 106 db>
COMMAND:

** SAFEGUARD SEISMIC UNIT 2000DK **
SN:2124
CONTINUOUS SEISMIC & LINEAR SOUND MODE
Thursday, 10/28/93 15:08:31

Client: USAEC
Operation: FT. SHERIDAN
SSU Location: WEST
Distance to Blast: 3000
Operator: B.M.S. IT CORP.
Comments: SHOT 1
Report Interval: 6 (30 min)

	SOUND		SEISMIC	
100	dB	140 0.00	in/sec	1.28



BAT: 13.3 SN:2124 v3.26 11/02/93 10:40
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EVENT HOLD <DISABLED> ALARM <DISABLED>
TRIGGERS: SEIS <0.02> SOUND < 106 db>
COMMAND:

** SAFEGUARD SEISMIC UNIT 2000DK **
SN:2124
CONTINUOUS SEISMIC & LINEAR SOUND MODE
Thursday, 10/28/93 14:41:20

Client: USAEC
Operation: FT. SHERIDAN
SSU Location: WEST
Distance to Blast: 3000
Operator: B.M.S. IT CORP.
Comments: SHOT 1
Report Interval: 6 (30 min)

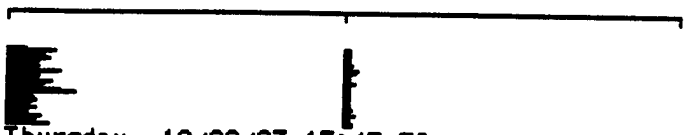
	SOUND		SEISMIC	
100	dB	140 0.00	in/sec	1.28

BAT: 13.1 SN:2124 v3.26 10/28/93 15:08
RECORD < 5> GRAPH < 6 in> COPIES <1>
OSM CHARTS <DISABLED> DISK COPIES <1>
EVENT HOLD <DISABLED> ALARM <DISABLED>
TRIGGERS: SEIS <0.02> SOUND < 106 db>
COMMAND:

** SAFEGUARD SEISMIC UNIT 2000DK **
SN:2160
CONTINUOUS SEISMIC & LINEAR SOUND MODE
Thursday, 10/28/93 15:13:30

Client: USAEC
Operation: FT.SHERIDAN
SSU Location: NORTH CORNER
Distance to Blast: 700
Operator: RRP IT CORP.
Comments: SHOT #1
Report Interval: 6 (30 min)

	SOUND		SEISMIC	
100	dB	140 0.00	in/sec	1.28



Thursday, 10/28/93 15:43:30

MAX PPV= 0.05 10/28/93 15:22:30
MAX dB = 129 10/28/93 15:31:30

BAT: 13.3 SN:2160 v3.30 11/02/93 10:43
RECORD < 5> GRAPH < 6 in> COPIES <1>
OSM CHARTS <DISABLED> DISK COPIES <1>
EVENT HOLD <DISABLED> ALARM <DISABLED>
TRIGGERS: SEIS <0.02> SOUND < 106 db>
COMMAND:

** SAFEGUARD SEISMIC UNIT 2000DK **
SN:2160
CONTINUOUS SEISMIC & LINEAR SOUND MODE
Tuesday, 11/02/93 15:00:55

Client: USAEC
Operation: FT.SHERIDAN
SSU Location: NORTH CORNER
Distance to Blast: 700
Operator: RRP IT CORP.
Comments: TWO 3'' STOKES MORTARS
Report Interval: 6 (30 min)

	SOUND			SEISMIC	
100	dB	140	0.00	in/sec	1.28

BAT: 13.3 SN:2160 v3.30 11/04/93 11:26
RECORD < 5> GRAPH < 6 in> COPIES <1>
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EVENT HOLD <DISABLED> ALARM <DISABLED>
TRIGGERS: SEIS <0.02> SOUND < 106 db>
COMMAND:

** SAFEGUARD SEISMIC UNIT 2000DK **
SN:2124
CONTINUOUS SEISMIC & LINEAR SOUND MODE
Tuesday, 11/02/93 15:03:26

Client: USAEC
Operation: FT. SHERIDAN
SSU Location: WEST
Distance to Blast: 3000
Operator: H.A.C. IT CORP.
Comments: TWO 3IN STOKES
Report Interval: 6 (30 min)

	SOUND			SEISMIC	
100	dB	140	0.00	in/sec	1.28

BAT: 13.0 SN:2124 v3.26 11/02/93 15:10
RECORD < 5> GRAPH < 6 in> COPIES <1>
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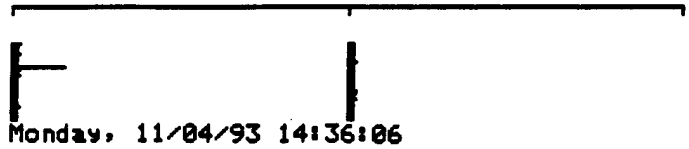
EVENT HOLD <DISABLED> ALARM <DISABLED>
TRIGGERS: SEIS <0.02> SOUND < 106 db>
COMMAND:

** SAFEGUARD SEISMIC UNIT 2000DK **
SN:2160
CONTINUOUS SEISMIC & LINEAR SOUND MODE
Monday, 11/04/93 14:06:06

Client: USAEC
Operation: FT.SHERIDAN
SSU Location: NORTH CORNER
Distance to Blast: 300
Operator: JB IT CORP
Comments: ONE AT MINE ONE 75MM PRO
Report Interval: 6 (30 min)

	SOUND			SEISMIC	
100	dB	140	0.00	in/sec	1.28



Monday, 11/04/93 14:36:06

MAX PPV= 0.03 11/04/93 14:28:06
MAX dB = 126 11/04/93 14:16:06
BAT: 13.0 SN:2160 v3.30 11/23/93 8:57
RECORD < 5> GRAPH < 6 in> COPIES <1>
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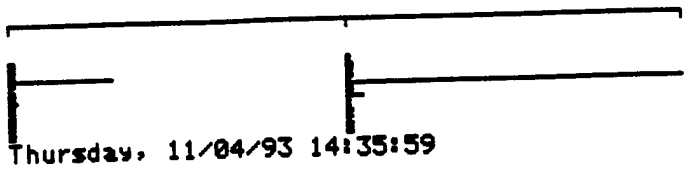
EVENT HOLD <DISABLED> ALARM <DISABLED>
TRIGGERS: SEIS <0.02> SOUND < 106 db>
COMMAND:

** SAFEGUARD SEISMIC UNIT 2000DK **
SN:2124
CONTINUOUS SEISMIC & LINEAR SOUND MODE
Thursday, 11/04/93 14:05:59

Client: USAEC
Operation: FT. SHERIDAN
SSU Location: WEST
Distance to Blast: 350
Operator: C.A.C. IT CORP
Comments: 1 AT MINE 1 75 MM
Report Interval: 6 (30 min)

	SOUND		SEISMIC	
100	dB	140 0.00	in/sec	1.28



Thursday, 11/04/93 14:35:59

MAX PPV= 1.27 11/04/93 14:16:59
MAX dB = 132 11/04/93 14:13:59
BAT: 13.2 SN:2124 v3.26 11/23/93 8:54
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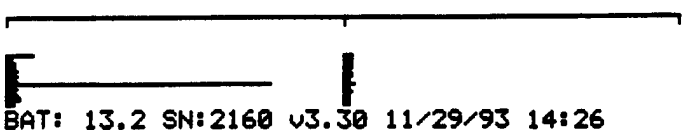
OSM CHARTS <DISABLED> DISK COPIES <1>
EVENT HOLD <DISABLED> ALARM <DISABLED>
TRIGGERS: SEIS <0.02> SOUND < 106 db>
COMMAND:

** SAFEGUARD SEISMIC UNIT 2000DK **
SN:2160
CONTINUOUS SEISMIC & LINEAR SOUND MODE
Saturday, 11/23/93 13:09:08

Client: USAEC
Operation: FT.SHERIDAN
SSU Location: NORTH CORNER
Distance to Blast: 300
Operator: JB IT CORP
Comments: TWO STOKES MORTARS
Report Interval: 6 (30 min)

	SOUND			SEISMIC	
100	dB	140	0.00	in/sec	1.28



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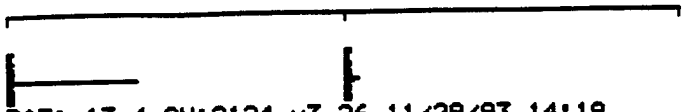
EVENT HOLD <DISABLED> ALARM <DISABLED>
TRIGGERS: SEIS <0.02> SOUND < 106 db>
COMMAND:

** SAFEGUARD SEISMIC UNIT 2000DK **
SN:2124
CONTINUOUS SEISMIC & LINEAR SOUND MODE
Tuesday, 11/23/93 13:06:28

Client: USAEC
Operation: FT. SHERIDAN
SSU Location: WEST
Distance to Blast: 350
Operator: BMS IT CORP
Comments: 2 3INCH STOKES MOTARS
Report Interval: 6 (30 min)

	SOUND		SEISMIC	
100	dB	140 0.00	in/sec	1.28



BAT: 13.4 SN:2124 v3.26 11/29/93 14:18
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OSM CHARTS <DISABLED> DISK COPIES <1>
EVENT HOLD <DISABLED> ALARM <DISABLED>
TRIGGERS: SEIS <0.02> SOUND < 106 db>
COMMAND:

APPENDIX E

Photograph No. 1

Main entrance to project site at the northwestern corner of the site looking southeast. Ft. Sheridan, IL.

INTERNATIONAL TECHNOLOGY CORPORATION

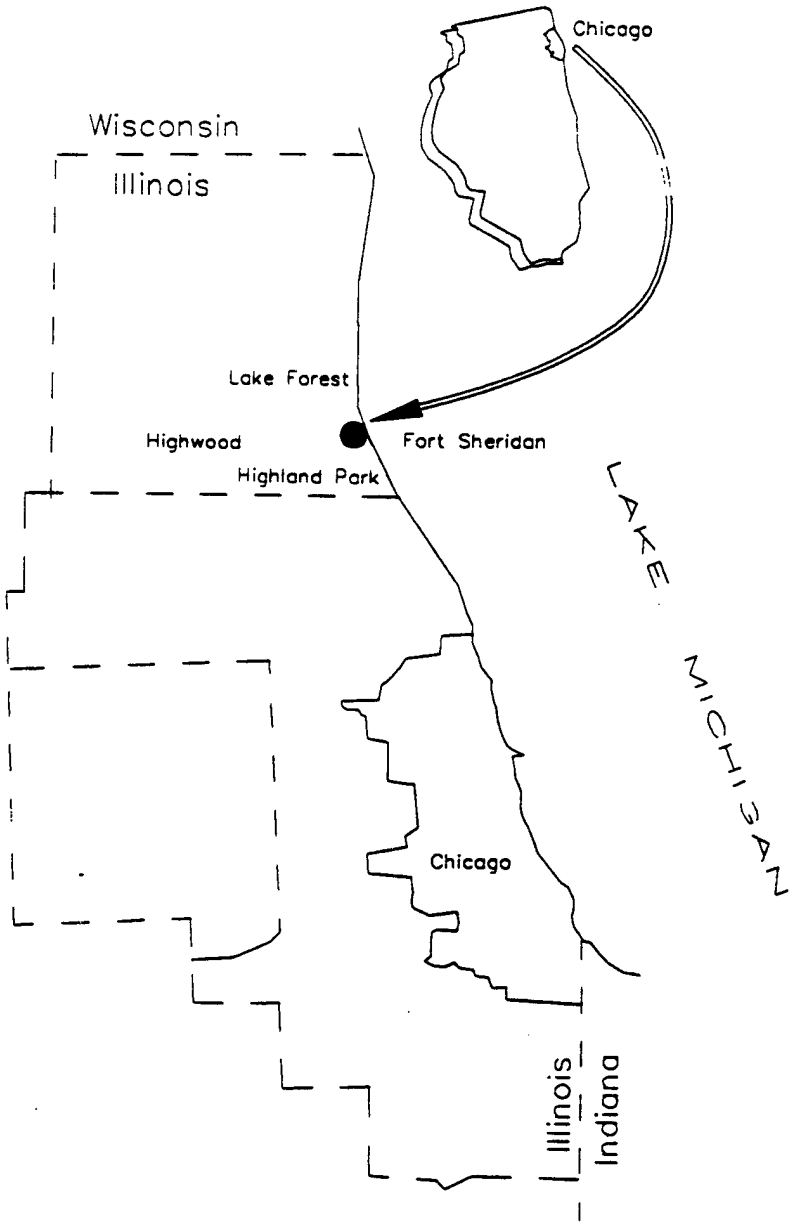
Photograph No. 2

Beach front area at eastern corner of the site looking northwest. Ft. Sheridan, IL.

INTERNATIONAL TECHNOLOGY CORPORATION

USAEC-07 (D - 4-APR-94)

FIGURES



No.	DATE	REVISION/DESCRIPTION		NAME	DATE
			DESIGN BY:		
			DRAWN BY:	D.M.B.	9/22/93
			CHECKED BY:		
			ENGINEER:		
			APPROVED BY:		

INTERNATIONAL TECHNOLOGY CORPORATION

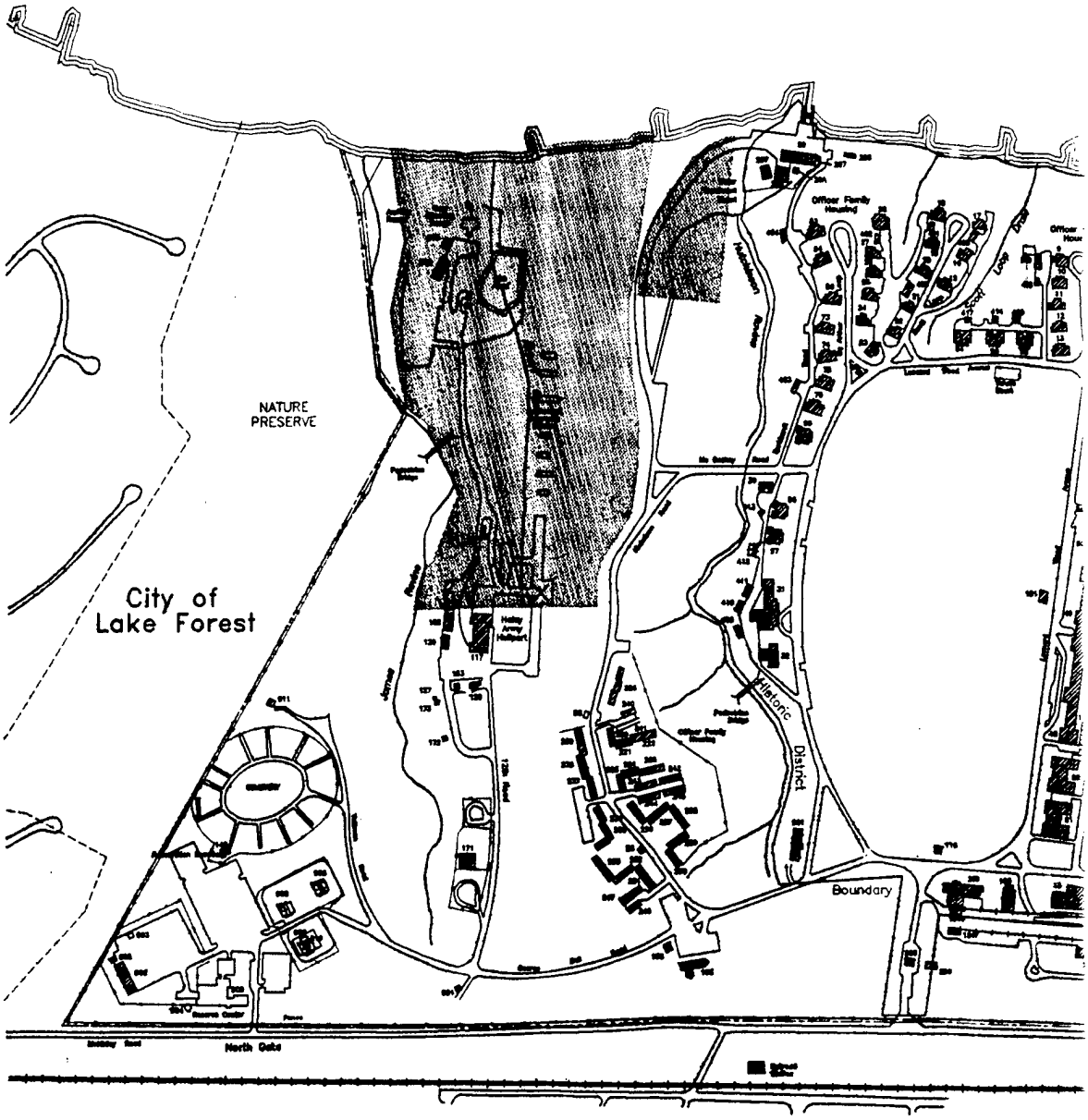
U.S. ARMY ENVIRONMENTAL CENTER

FIGURE 1
LOCATION MAP OF
FORT SHERIDAN

Prepared For:
FORT SHERIDAN, ILLINOIS
UXO SURVEY OPERATION
AUGUST 1994

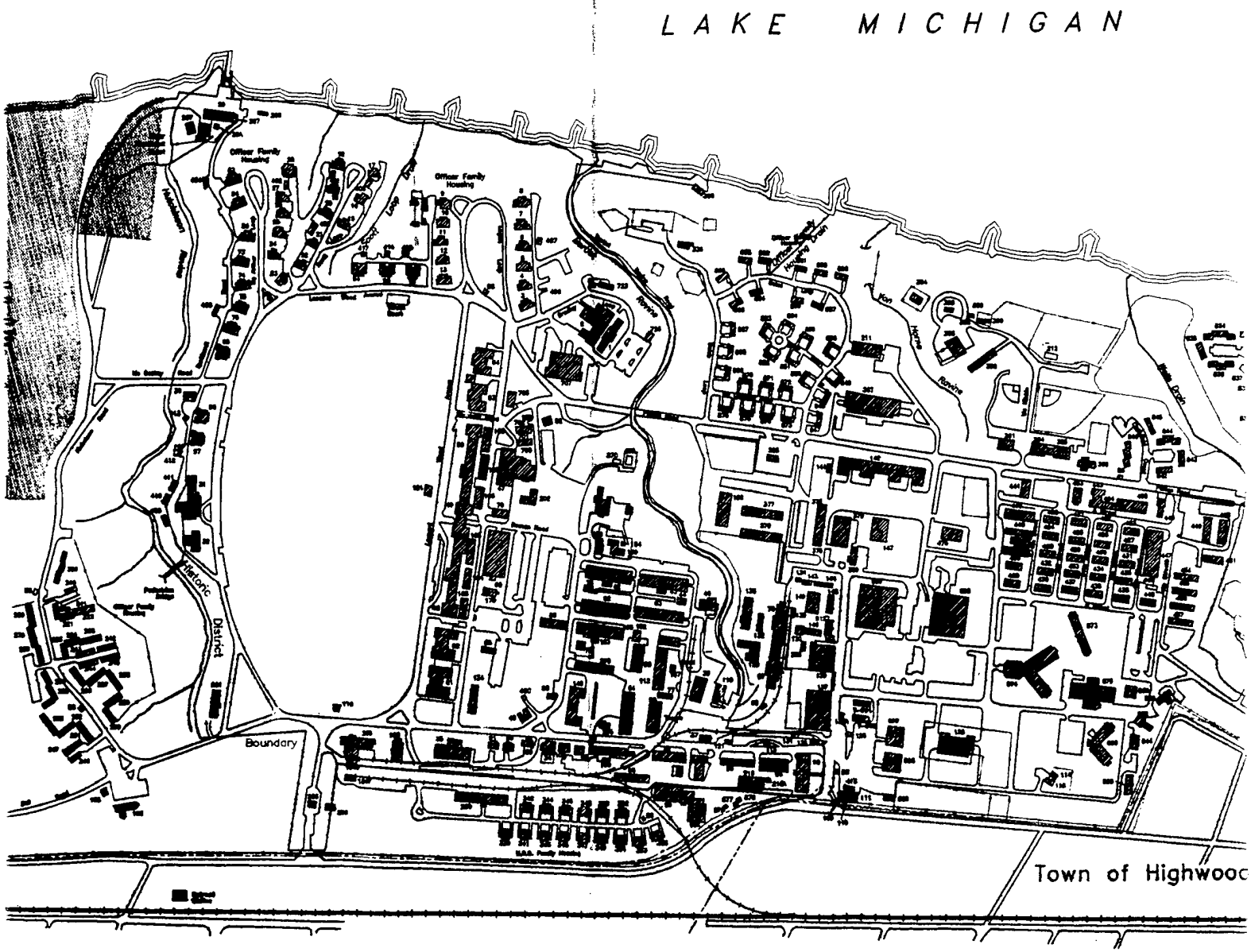
PROJECT No.	529678
DATE	9/22/93
SHEET	OF
DWG No.	529678-A1

529678A1 09/22/93 10:43am D.M.B.

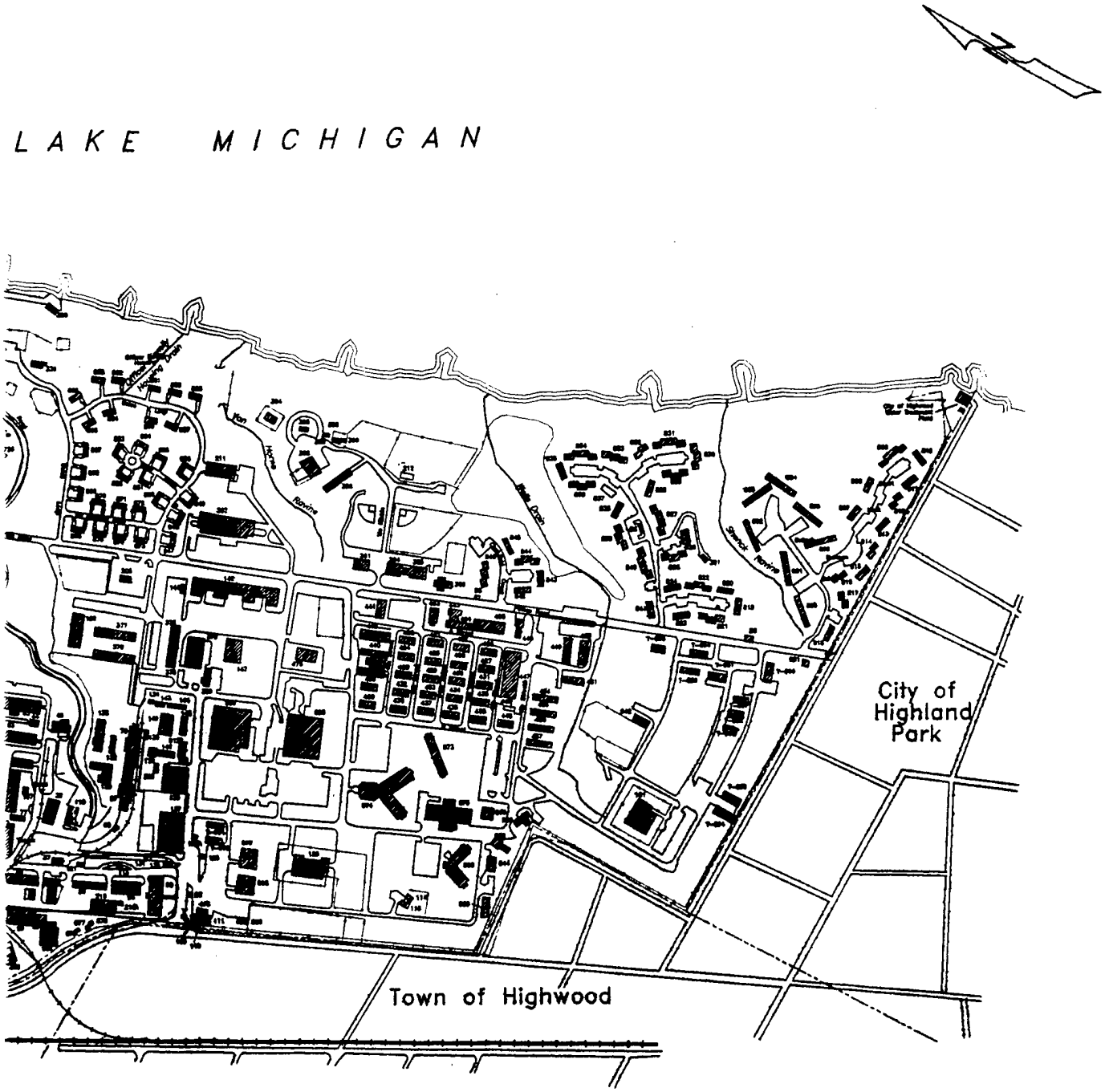


Adapted from Official Post Map, Directorate of Engineering and Housing, Fort Sheridan, Illinois, January 6, 1988

No.	DATE	REVISION/DESCRIPTION	INIT.		NAME	DATE	SCALE
				DESIGN BY:			
				DRAWN BY:	DMB	12/93	
				CHECKED BY:			0 300 600
				ENGINEER:			SCALE OF FEET
				APPROVED BY:			



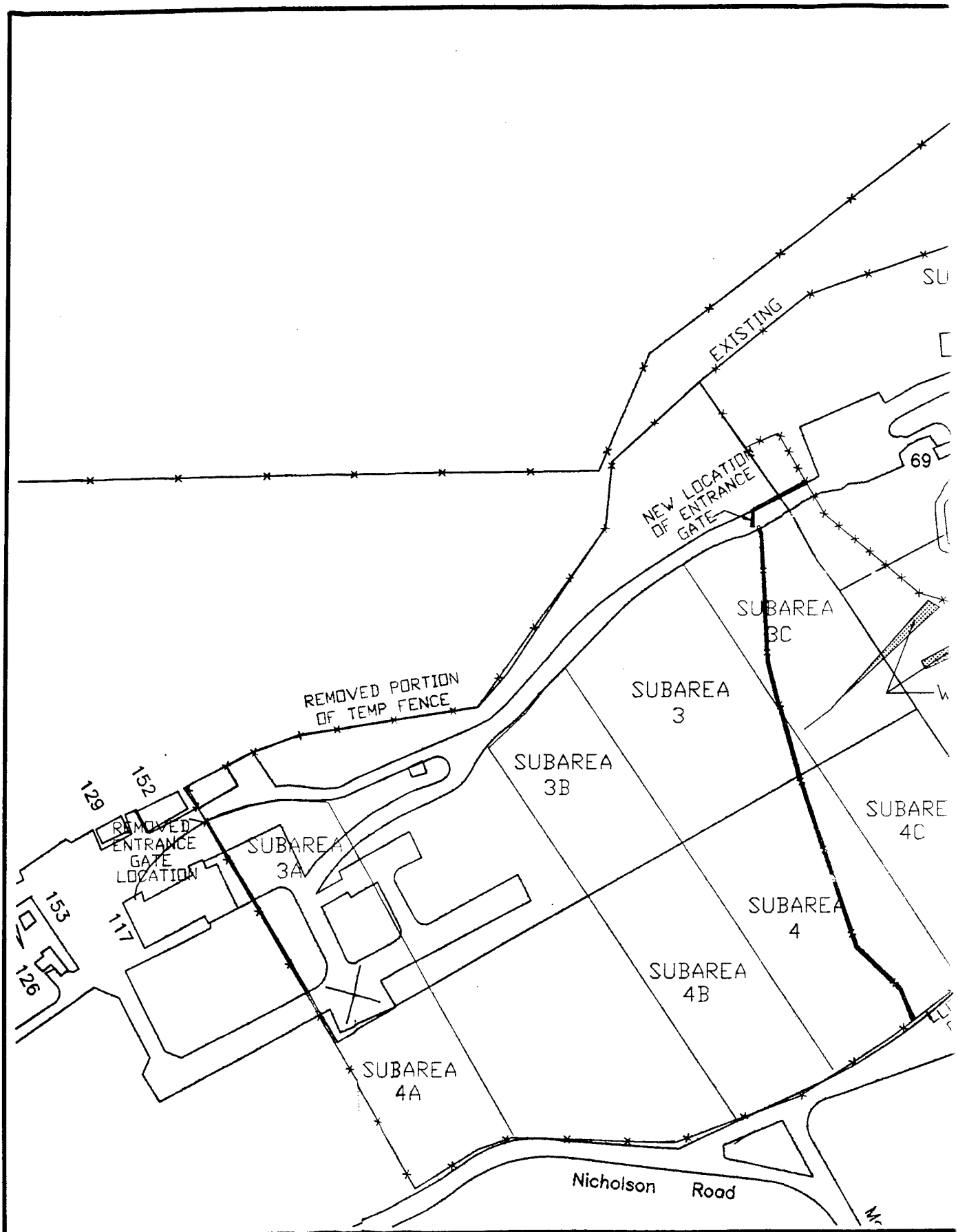
DATE	SCALE		
12/93	0 300 600 SCALE OF FEET	INTERNATIONAL TECHNOLOGY CORPORATION	U.S. ARMY ENVIRONMENTAL CENTER



LEGEND:

50 ACRE PARCEL

ATIONAL LOGY ATION	U.S. ARMY ENVIRONMENTAL CENTER	SHEET TITLE: FIGURE 2 LOCATION OF 50 ACRE PARCEL FT. SHERIDAN Prepared For: FT. SHERIDAN, ILLINOIS UXO SURVEY OPERATION AUGUST 1994	JOB No. 529678
			DATE 4/14/94
			SHEET . OF .
			DRAWING No. 529678-B5



No.	DATE	REVISION/DESCRIPTION	BY.

	NAME	DATE
DESIGN BY:		
DRAWN BY:	DMB	12/93
CHECKED BY:		
ENGINEER:		
APPROVED BY:		

SCALE

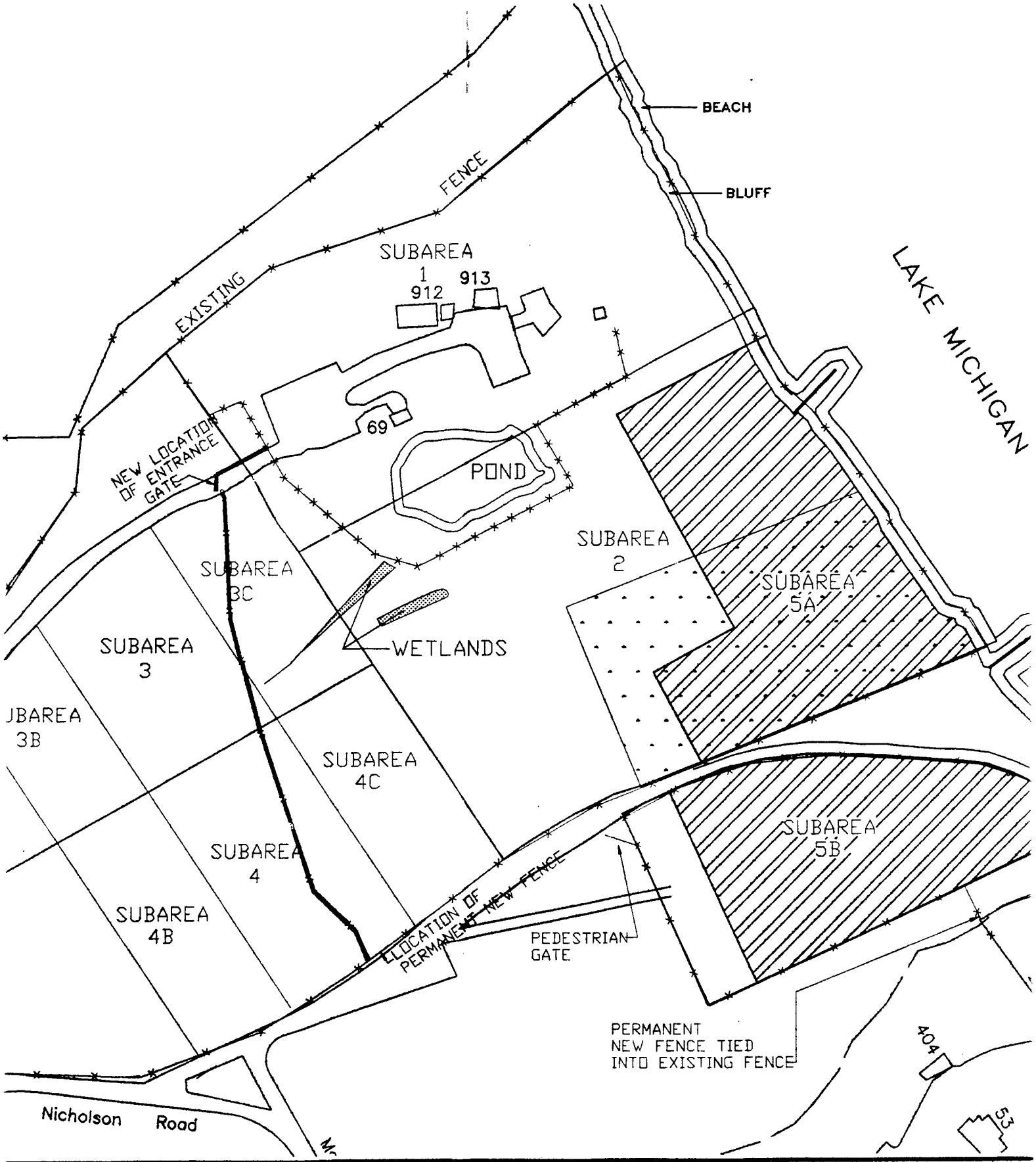
0 220 440

SCALE OF FEET

I

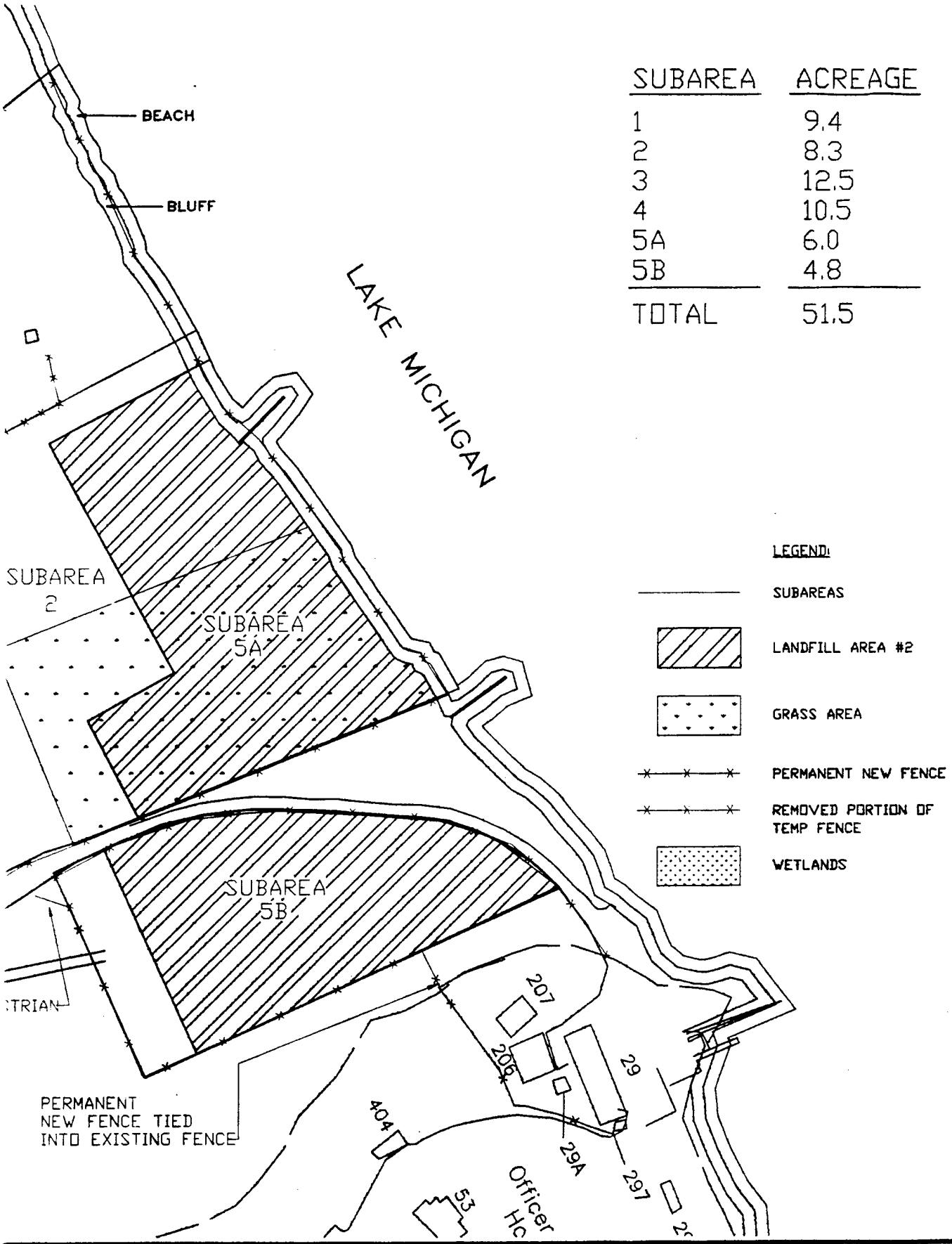
DESIGNED 05/02/94 11:14am D.M.B.
WEBFSLIT

1



DATE	SCALE			SHEET 1
12/93	0 220 440 SCALE OF FEET	INTERNATIONAL TECHNOLOGY CORPORATION	U.S. ARMY ENVIRONMENTAL CENTER	

SUBAREA	ACREAGE
1	9.4
2	8.3
3	12.5
4	10.5
5A	6.0
5B	4.8
TOTAL	51.5

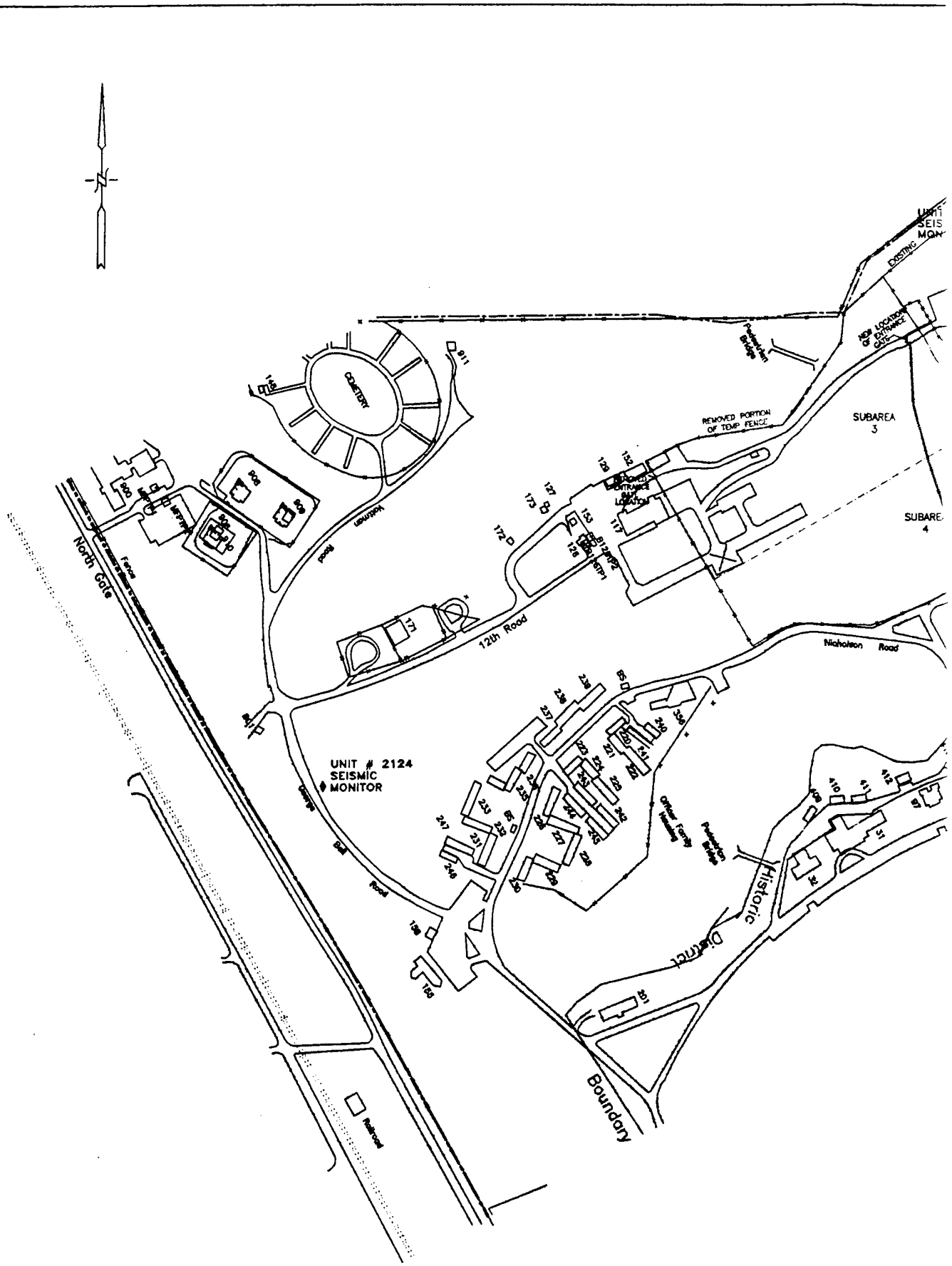


U.S. ARMY ENVIRONMENTAL CENTER

SHEET TITLE: FIGURE 3
SUBAREA DIVISIONS AND WETLANDS
FT. SHERIDAN

Prepared For:
FT. SHERIDAN, ILLINOIS
UXO SURVEY OPERATION
AUGUST 1994

JOB No.	529678
DATE	02/04/94
SHEET	OF
DRAWING No.	529678-B4



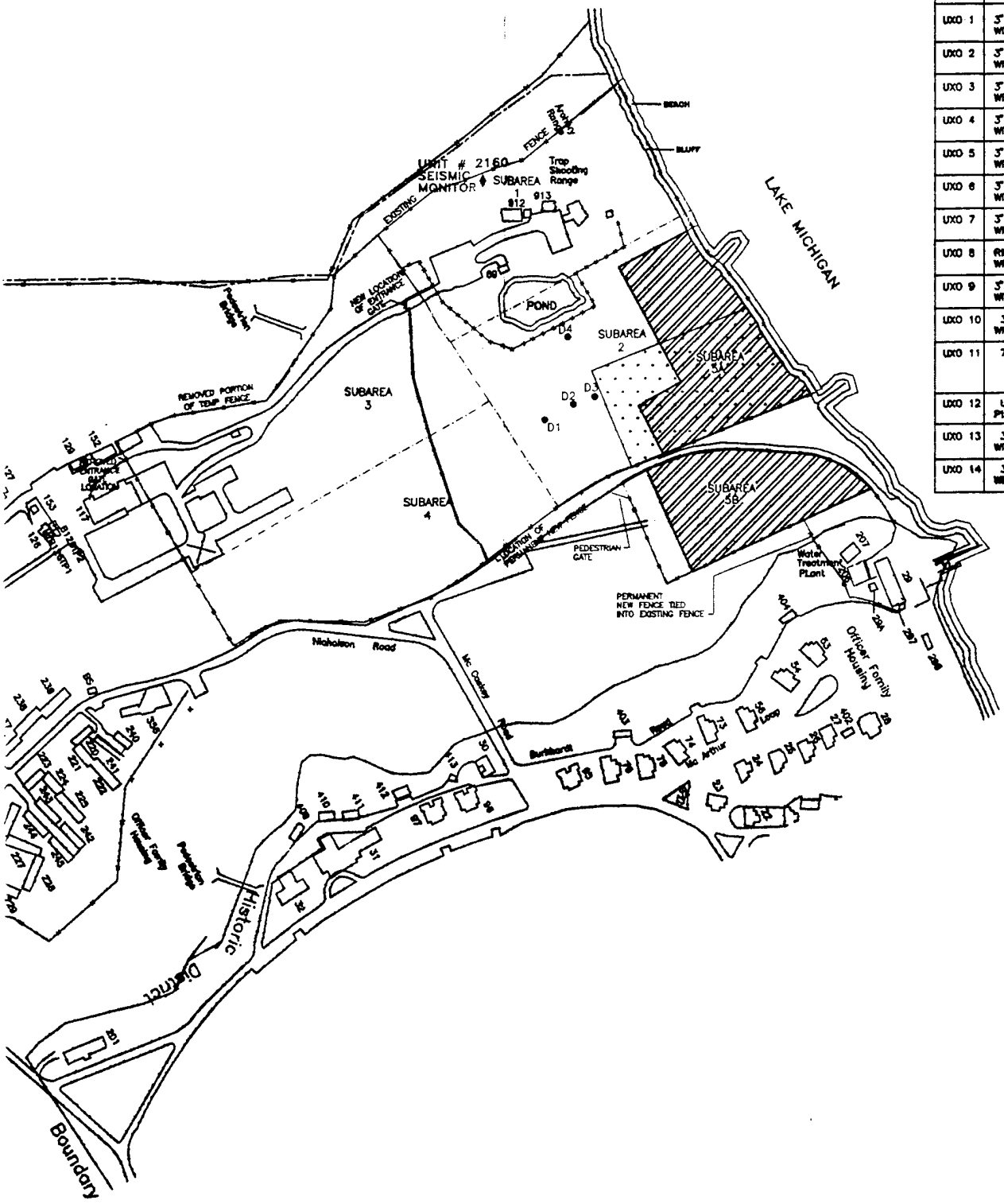
No.	DATE	REVISION/DESCRIPTION	INIT.		NAME	DATE
				DESIGN BY:		
				DRAWN BY:	DMB	12/93
				CHECKED BY:		
				ENGINEER:		
				APPROVED BY:		

SCALE

0 250 500

SCALE OF FEET

No.	ITEM	DEPTH FOUND AT	
UXO 1	3" STOKES MORTAR WITH FUSE MISSING	6"	D
UXO 2	3" STOKES MORTAR WITH FUSE	8"	D
UXO 3	3" STOKES MORTAR WITH FUSE MISSING	4"	D
UXO 4	3" STOKES MORTAR WITH FUSE MISSING	6"	D
UXO 5	3" STOKES MORTAR WITH FUSE	6"	D
UXO 6	3" STOKES MORTAR WITH FUSE MISSING	3"	D
UXO 7	3" STOKES MORTAR WITH FUSE	6"	D
UXO 8	RIFLE GRENADE - M6A5 WITH FUSE	6"	D
UXO 9	3" STOKES MORTAR WITH FUSE MISSING	ON SURFACE	D
UXO 10	3" STOKES MORTAR WITH FUSE	3"	D
UXO 11	75 MM PROJECTILE	3"	T E T F
UXO 12	US M4 W/ M1 PRESSURE PLATE WITH FUSE MISSING	3"	D
UXO 13	3" STOKES MORTAR WITH FUSE MISSING	12"	D
UXO 14	3" STOKES MORTAR WITH FUSE MISSING	10"	D



SCALE

0 250 500

SCALE OF FEET

INTERNATIONAL TECHNOLOGY CORPORATION

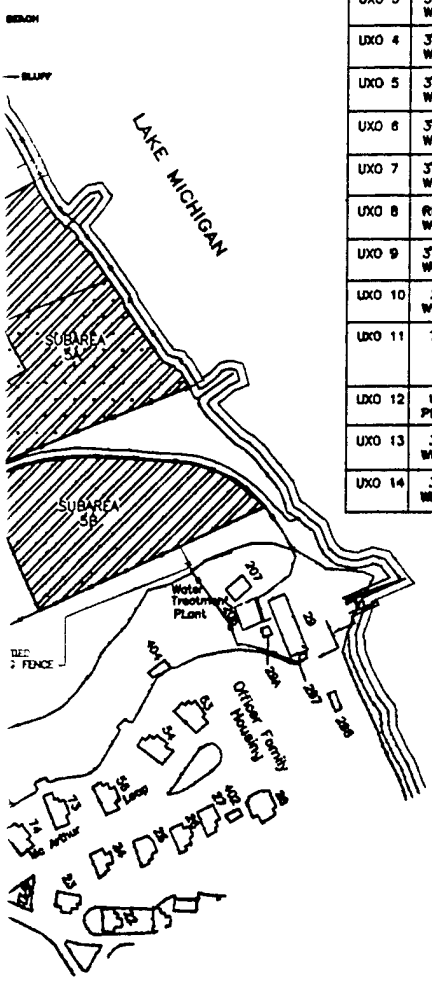
U.S. ARMY ENVIRONMENTAL CENTER

SHEET TITLE:

LOCATI

2

No.	ITEM	DEPTH FOUND AT	DETONATION SITE	STATE PLANAR COORDINATES NAD 83 (X) EASTING	(Y) NORTHING	LATITUDE	LONGITUDE
UXO 1	3" STOKES MORTAR WITH FUSE MISSING	6"	D1	1420739.2859	15337792.1894	78° 35' 24.84"	082° 18' 03.47"
UXO 2	3" STOKES MORTAR WITH FUSE	8"	D1	1420644.5792	15337741.4395	78° 35' 24.44"	082° 18' 08.40"
UXO 3	3" STOKES MORTAR WITH FUSE MISSING	4"	D1	1420627.1332	15337872.9751	78° 35' 25.74"	082° 18' 08.59"
UXO 4	3" STOKES MORTAR WITH FUSE MISSING	6"	D1	1420702.7324	15337911.8143	78° 35' 26.04"	082° 18' 04.66"
UXO 5	3" STOKES MORTAR WITH FUSE	6"	D1	1420837.3157	15337941.3321	78° 35' 26.20"	082° 17' 57.86"
UXO 6	3" STOKES MORTAR WITH FUSE MISSING	3"	D4	1420720.1784	15338013.3142	78° 35' 27.02"	082° 18' 03.28"
UXO 7	3" STOKES MORTAR WITH FUSE	6"	D4	1420668.6713	15337968.3857	78° 35' 26.81"	082° 18' 05.96"
UXO 8	RIFLE GRENADE – M9A5 WITH FUSE	6"	D4	1420810.7313	15337816.0108	78° 35' 25.00"	082° 17' 59.81"
UXO 9	3" STOKES MORTAR WITH FUSE MISSING	ON SURFACE	D2	1420842.3002	15337563.4932	78° 35' 22.69"	082° 17' 59.44"
UXO 10	3" STOKES MORTAR WITH FUSE	3"	D2	1420735.1321	15337823.9397	78° 35' 22.22"	082° 18' 05.04"
UXO 11	75 MM PROJECTILE	3"	TRANSPORTED BY 88th EOD TEAM TO FT. McKOY, WI.	1420766.9014	15338484.4008	78° 35' 31.58"	082° 17' 58.56"
UXO 12	US M4 W/ M1 PRESSURE PLATE WITH FUSE MISSING	3"	D1	1420768.6144	15338377.1868	78° 35' 30.51"	082° 17' 58.03"
UXO 13	3" STOKES MORTAR WITH FUSE MISSING	12"	D3	1420745.2748	15337648.1638	78° 35' 23.40"	082° 18' 03.92"
UXO 14	3" STOKES MORTAR WITH FUSE MISSING	10"	D3	1420509.2004	15337586.5498	78° 35' 23.05"	082° 18' 16.89"



LEGEND:

SUBAREAS

LANDFILL AREA #2

GRASS AREA

NEW FENCE

D ● DETONATION SITE

SEISMIC MONITOR

U.S. ARMY ENVIRONMENTAL CENTER

SHEET TITLE: FIGURE 4
LOCATION OF DISPOSAL DETONATIONS AND SEISMIC MONITORS
Prepared For:
FT. SHERIDAN, ILLINOIS
UXO SURVEY OPERATION
AUGUST 1994

JOB No.	529678
DATE	02/04/94
SHEET	OF
DRAWING No.	529678-B2

3

A B

1

LEGEND:

SUBAREAS

LANDFILL AREA #2

GRASS AREA

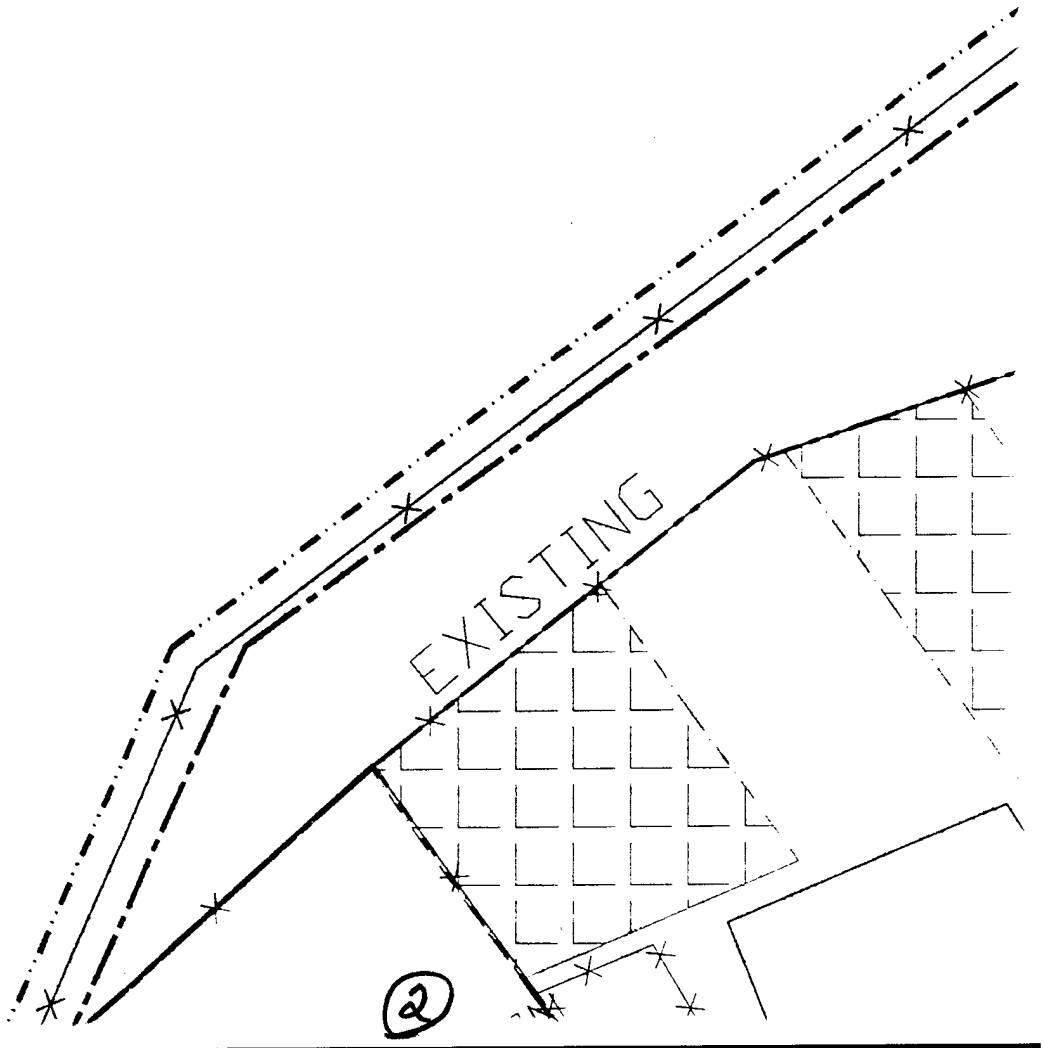
SURFACE SURVEY

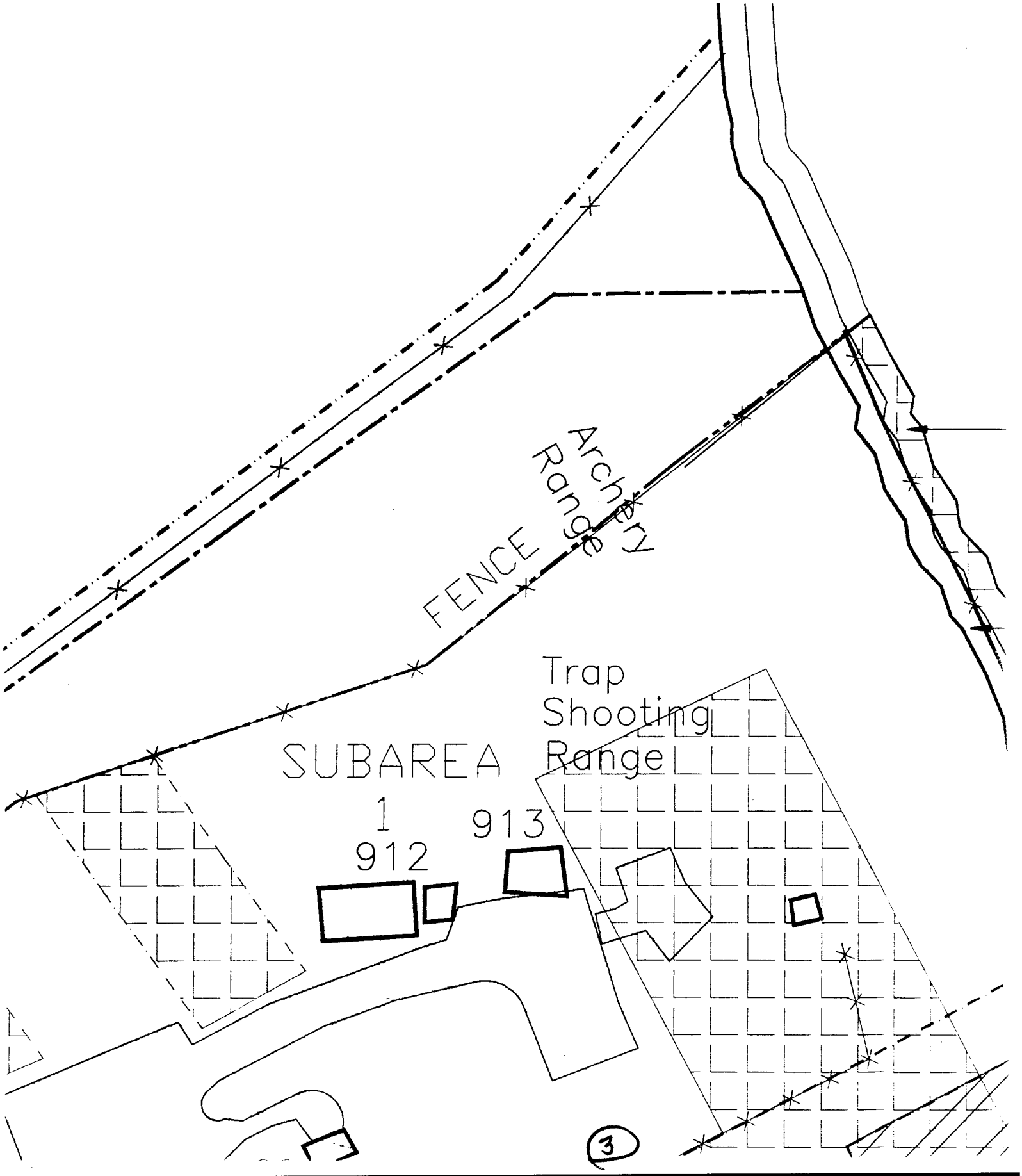
2

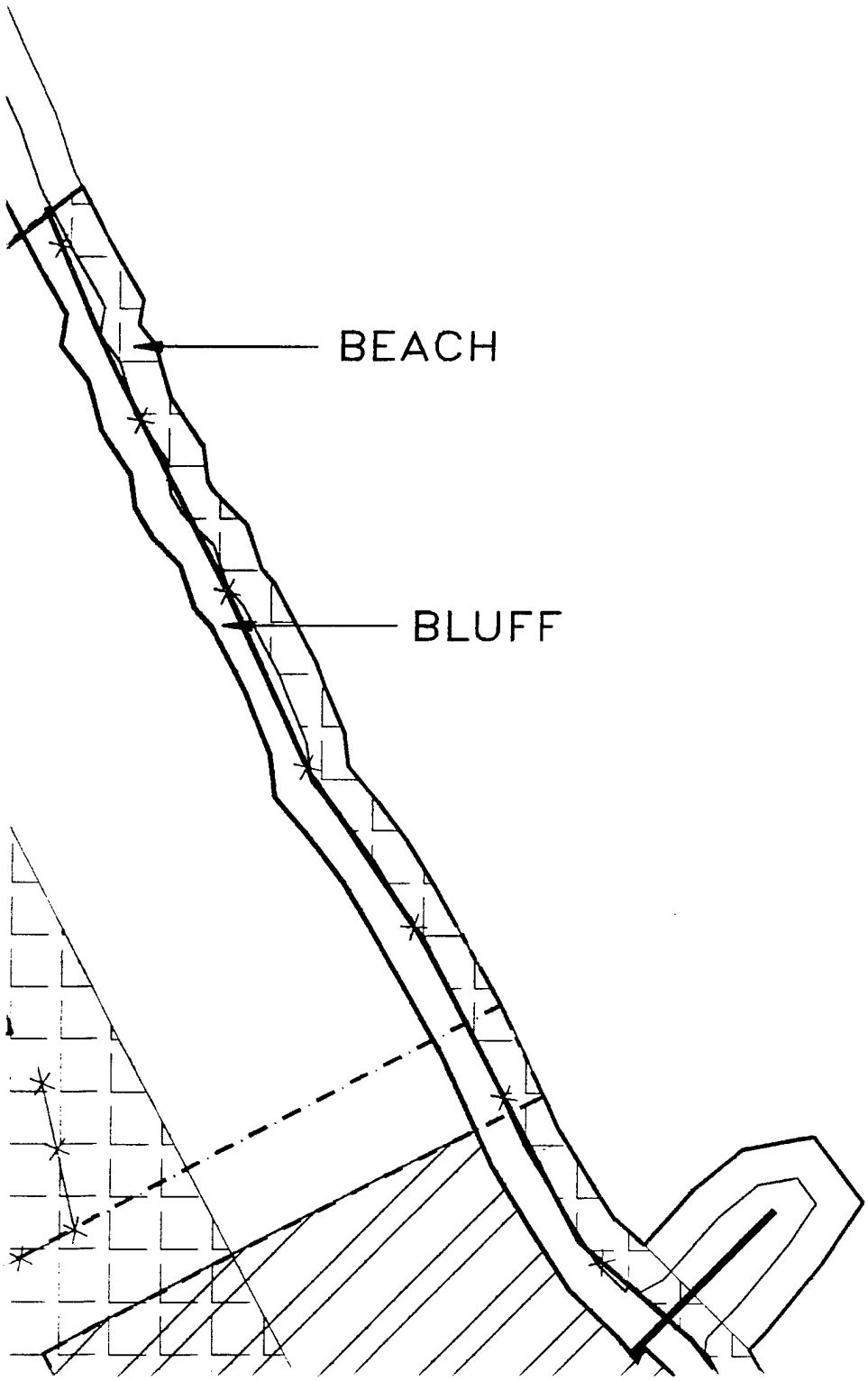
PERMANENT NEW FENCE

REMOVED PORTION OF TEMP FENCE

3


EXISTING
2


FENCE
Archery Range
Trap Shooting Range
SUBAREA 1
912
913
3



LAKE MICHIG

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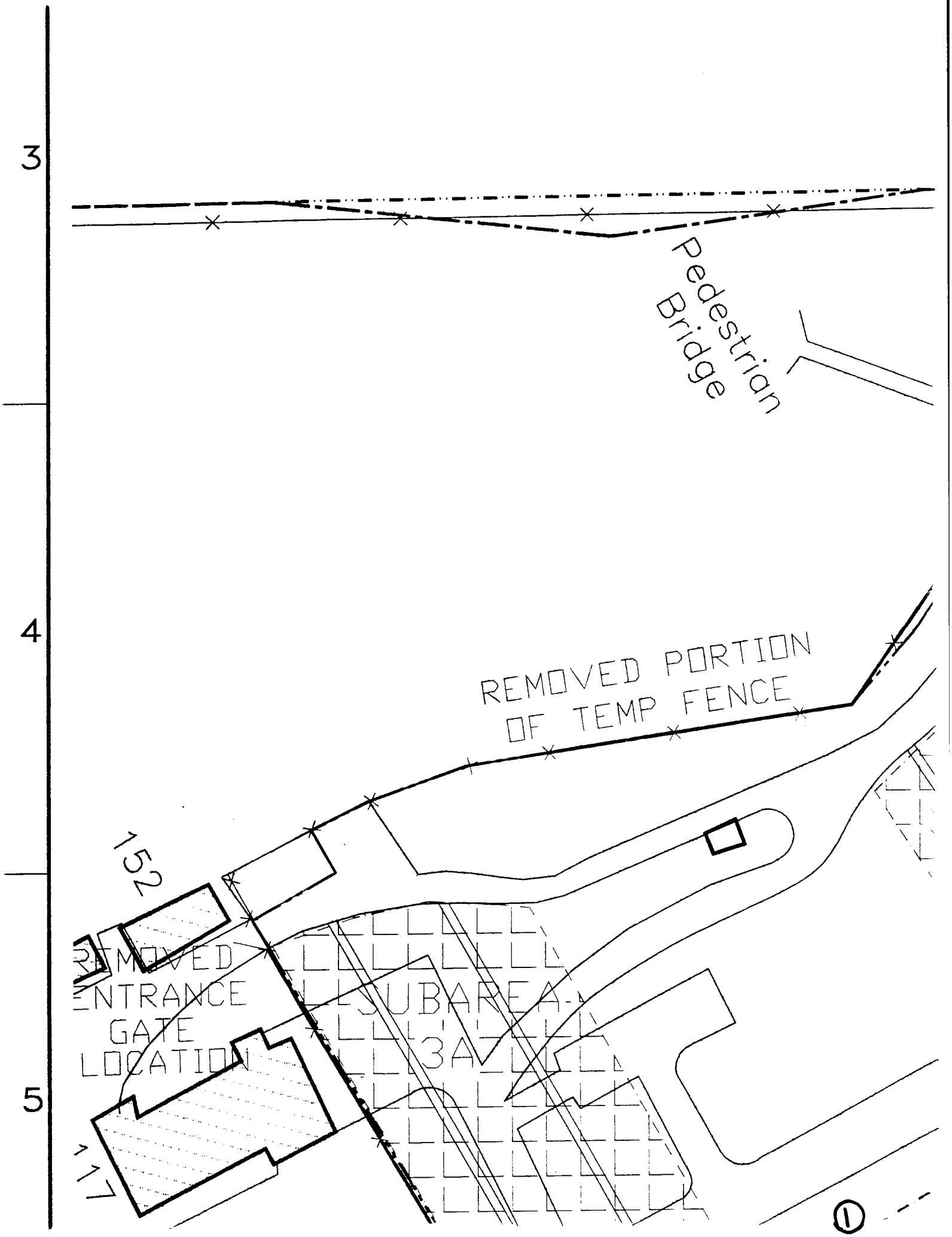
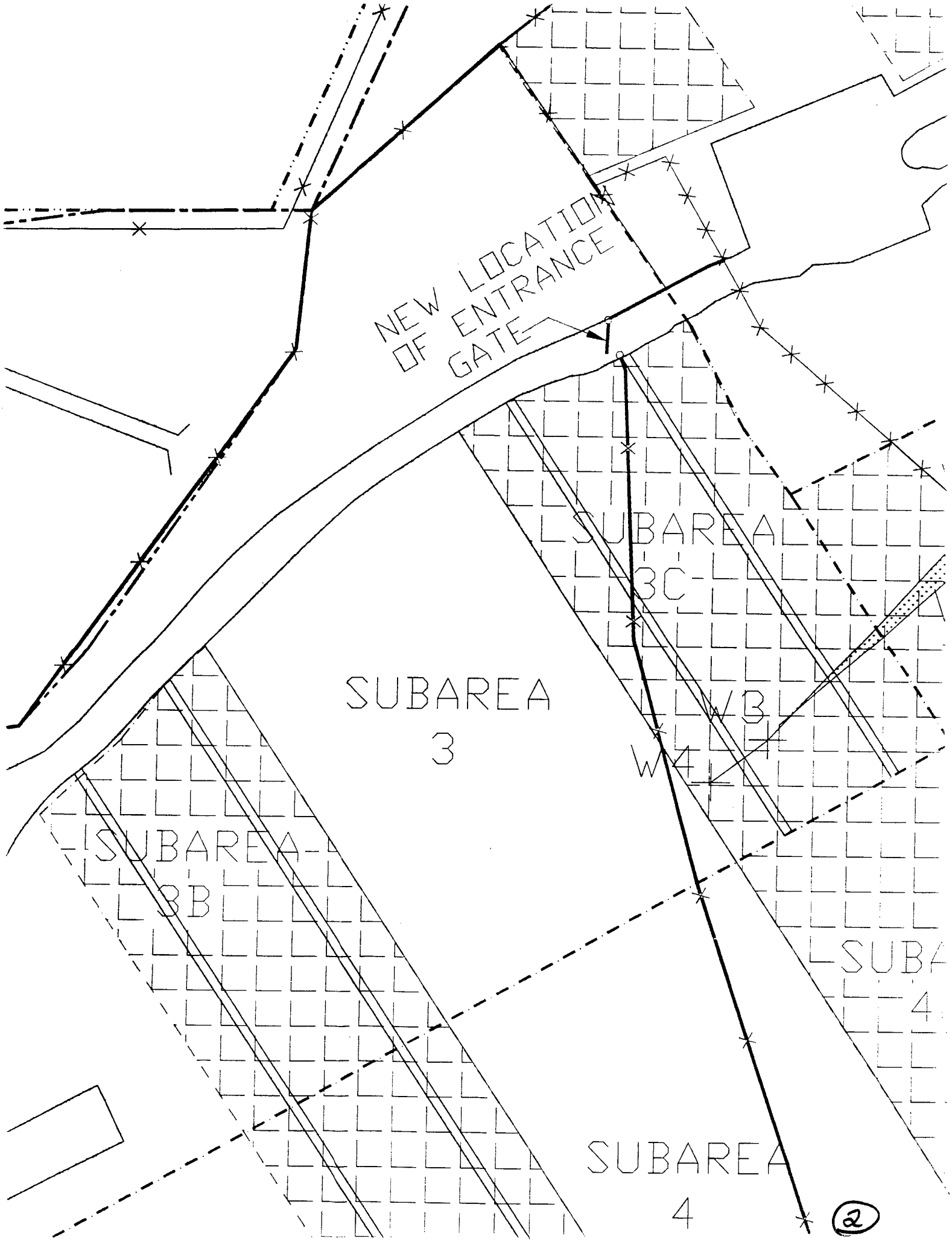
4

No.	ITEM	DEPTH FOUND AT	DETONATION SITE	STATE PLAN N (X) EASTING
UXO 1	3" STOKES MORTAR WITH FUSE MISSING	6"	D1	1420739.285
UXO 2	3" STOKES MORTAR WITH FUSE	8"	D1	1420644.579
UXO 3	3" STOKES MORTAR WITH FUSE MISSING	4"	D1	1420627.133
UXO 4	3" STOKES MORTAR WITH FUSE MISSING	6"	D1	1420702.732
UXO 5	3" STOKES MORTAR WITH FUSE	6"	D1	1420837.315
UXO 6	3" STOKES MORTAR WITH FUSE MISSING	3"	D4	1420720.178
UXO 7	3" STOKES MORTAR WITH FUSE	6"	D4	1420668.671
UXO 8	RIFLE GRENADE – M6A5 WITH FUSE	6"	D4	1420810.731
UXO 9	3" STOKES MORTAR WITH FUSE MISSING	ON SURFACE	D2	1420842.300
UXO 10	3" STOKES MORTAR WITH FUSE	3"	D2	1420735.132
UXO 11	75 MM PROJECTILE	3"	TRANSPORTED BY 88th EOD TEAM TO FT. McKOY, WI.	1420766.901
UXO 12	US M4 W/ M1 PRESSURE PLATE WITH FUSE MISSING	3"	D1	1420788.614
UXO 13	3" STOKES MORTAR WITH FUSE MISSING	12"	D3	1420745.274
UXO 14	3" STOKES MORTAR WITH FUSE MISSING	10"	D3	1420509.200

ONATION SITE	STATE PLANAR COORDINATES NAD 83		LATITUDE	LONGITUDE
	(X) EASTING	(Y) NORTHING		
	1420739.2859	15337792.1894	78° 35' 24.84"	082° 18' 03.47"
	1420644.5792	15337741.4395	78° 35' 24.44"	082° 18' 08.40"
	1420627.1332	15337872.9751	78° 35' 25.74"	082° 18' 08.59"
	1420702.7324	15337911.8143	78° 35' 26.04"	082° 18' 04.66"
	1420837.3157	15337941.3321	78° 35' 26.20"	082° 17' 57.86"
	1420720.1784	15338013.3142	78° 35' 27.02"	082° 18' 03.28"
	1420668.6713	15337986.3857	78° 35' 26.81"	082° 18' 05.96"
	1420810.7313	15337816.0108	78° 35' 25.00"	082° 17' 59.81"
	1420842.3002	15337583.4932	78° 35' 22.69"	082° 17' 59.44"
	1420735.1321	15337523.9397	78° 35' 22.22"	082° 18' 05.04"
SPORTED 8th EOD TO lcKOY, WI.	1420766.9014	15338484.4008	78° 35' 31.58"	082° 17' 58.56"
	1420788.6144	15338377.1898	78° 35' 30.51"	082° 17' 58.03"
	1420745.2748	15337646.1538	78° 35' 23.40"	082° 18' 03.92"
	1420509.2004	15337585.5498	78° 35' 23.05"	082° 18' 15.89"


3
4
5
Pedestrian Bridge
REMOVED PORTION OF TEMP FENCE
152
REMOVED ENTRANCE GATE LOCATION
SUBAREA 3A
117
1


NEW LOCATION
OF ENTRANCE
GATE
SUBAREA
3C
SUBAREA
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SUBAREA
3B
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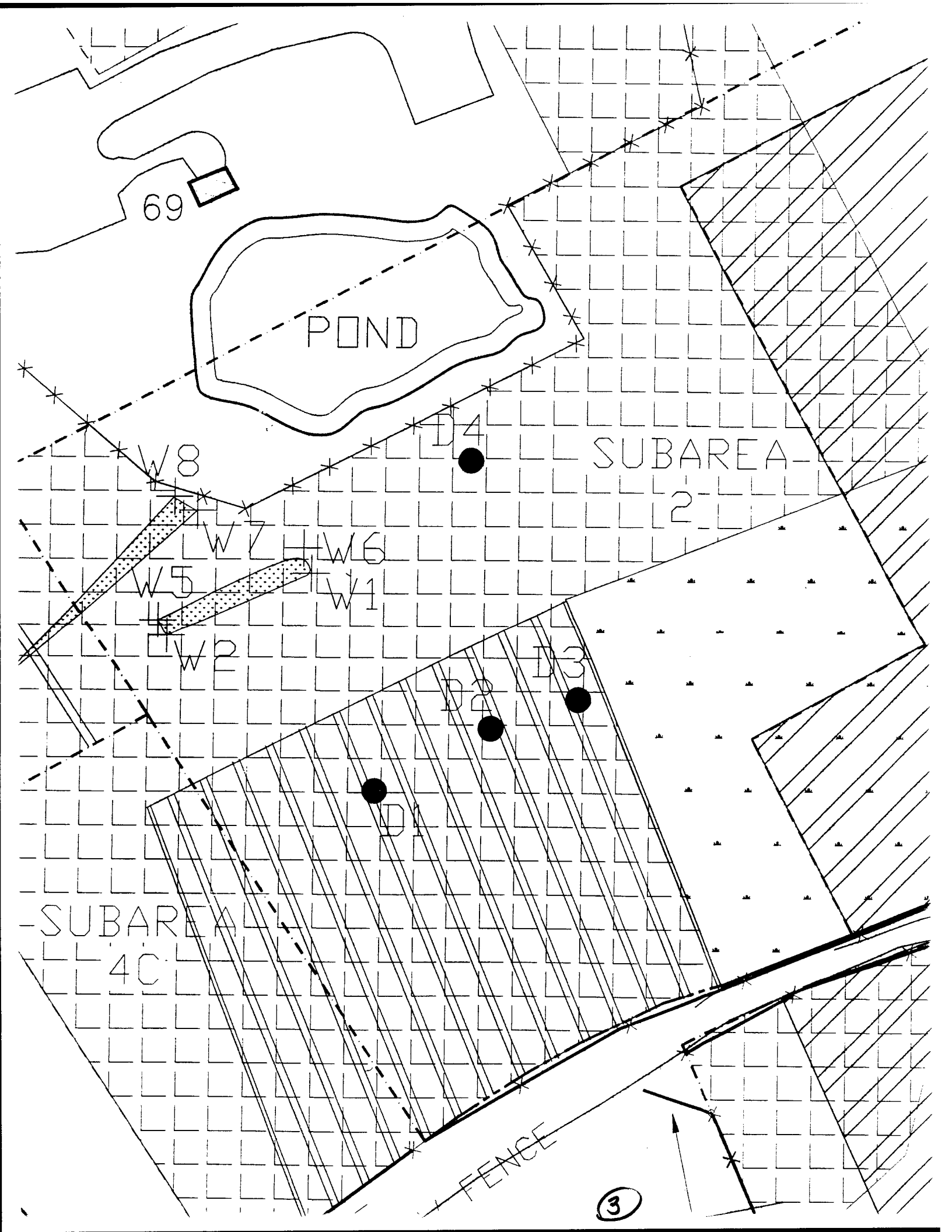
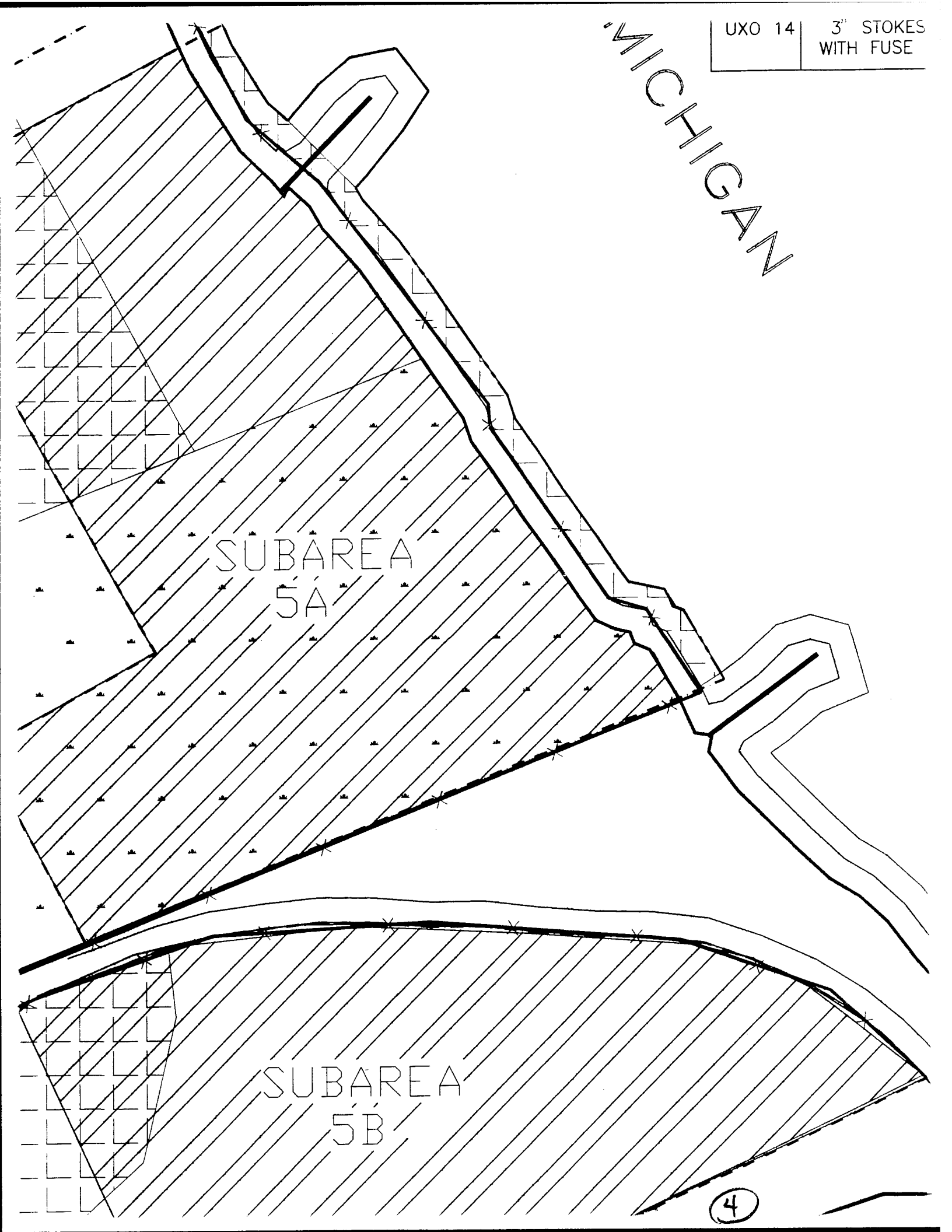
SUBAREA
4
2

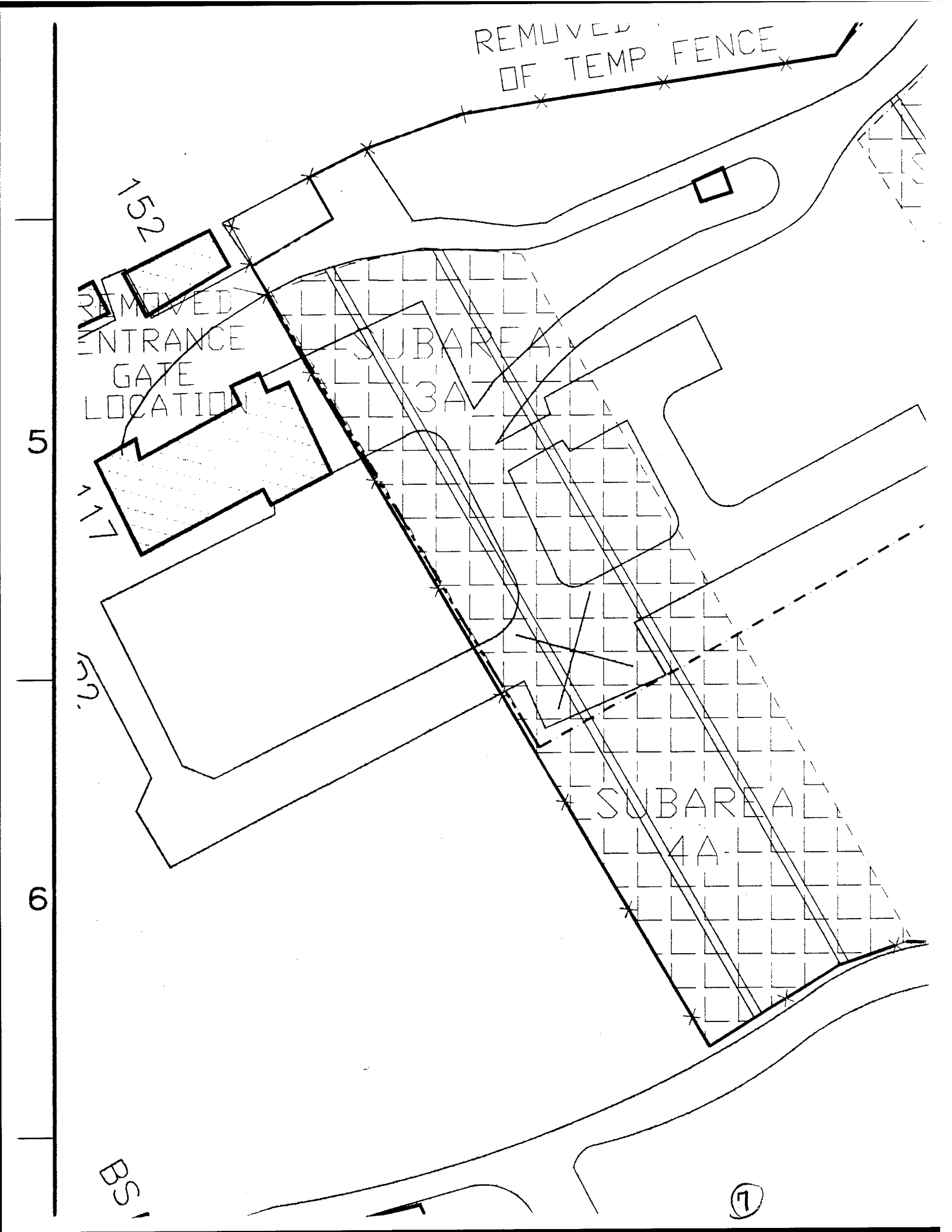

69
POND
D4
SUBAREA
2
W8
W7
W6
W5
W1
W2
D3
D2
D1
SUBAREA
4C
FENCE
3

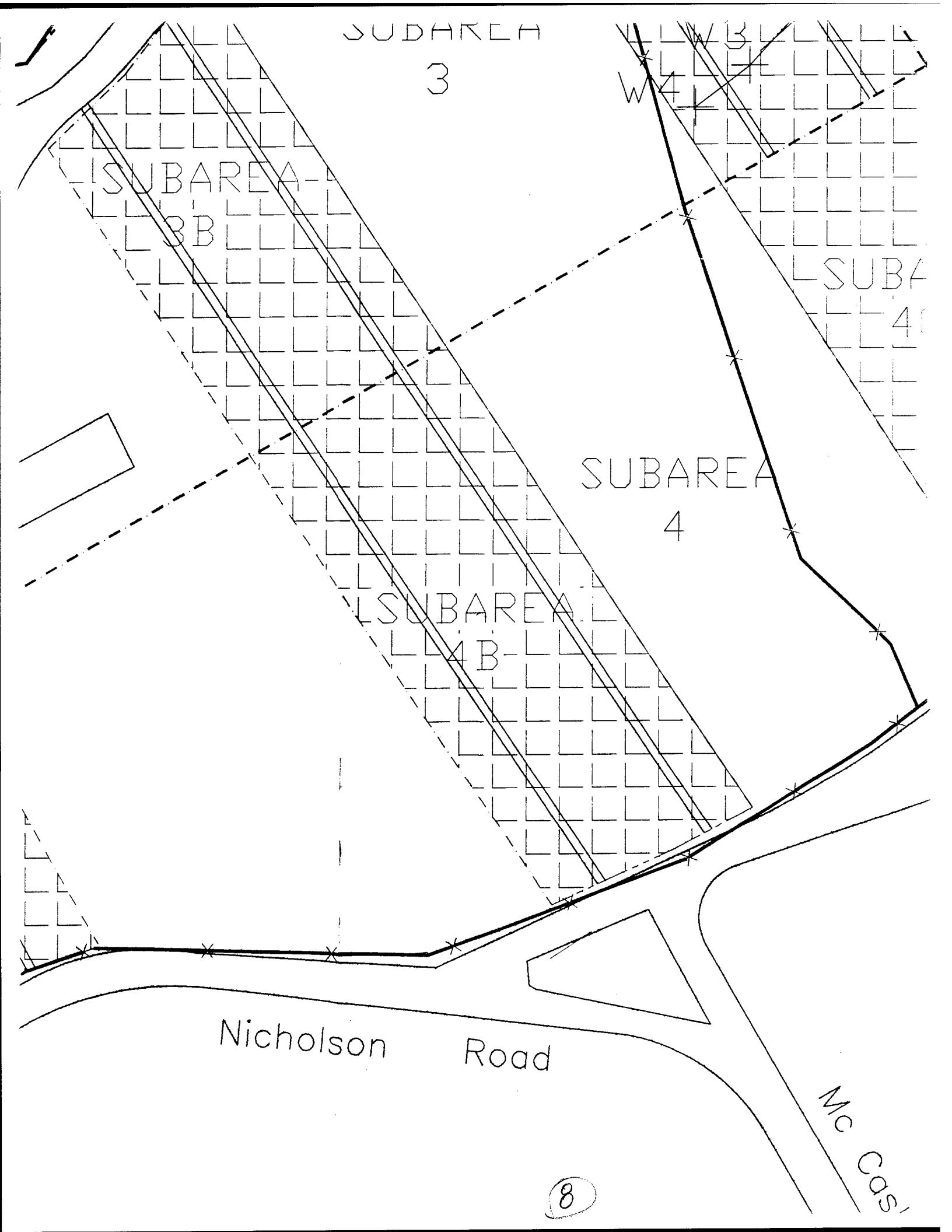

UXO 14
3" STOKES WITH FUSE
MICHIGAN
SUBAREA 5A
SUBAREA 5B
4

14	3" STOKES MORTAR WITH FUSE MISSING	10	D3	1420509.2004	15337585.3

5

	1420509.2004	15337585.5498	78° 35' 23.05"	082° 18' 15.89"


REMOVED
OF TEMP FENCE
152
REMOVED
ENTRANCE
GATE
LOCATION
SUBAREA
3A
SUBAREA
4A
5
6
7


SUBAREA
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SUBAREA
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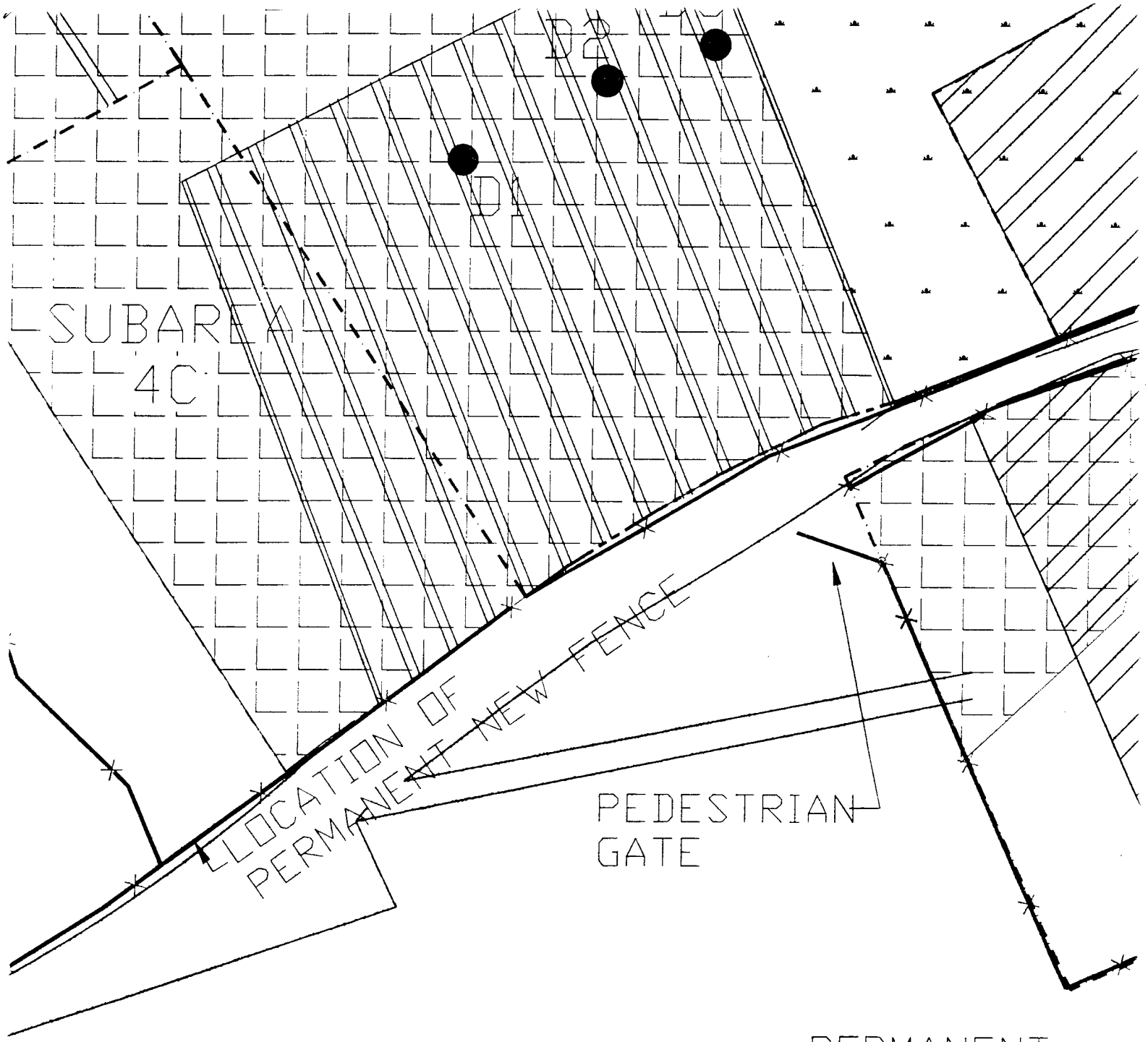
SUBAREA
4
SUBAREA
4B
Nicholson Road
Mc Cas



PERMANENT
NEW FENCE TI
INTO EXISTING

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SUBAREA
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Officer
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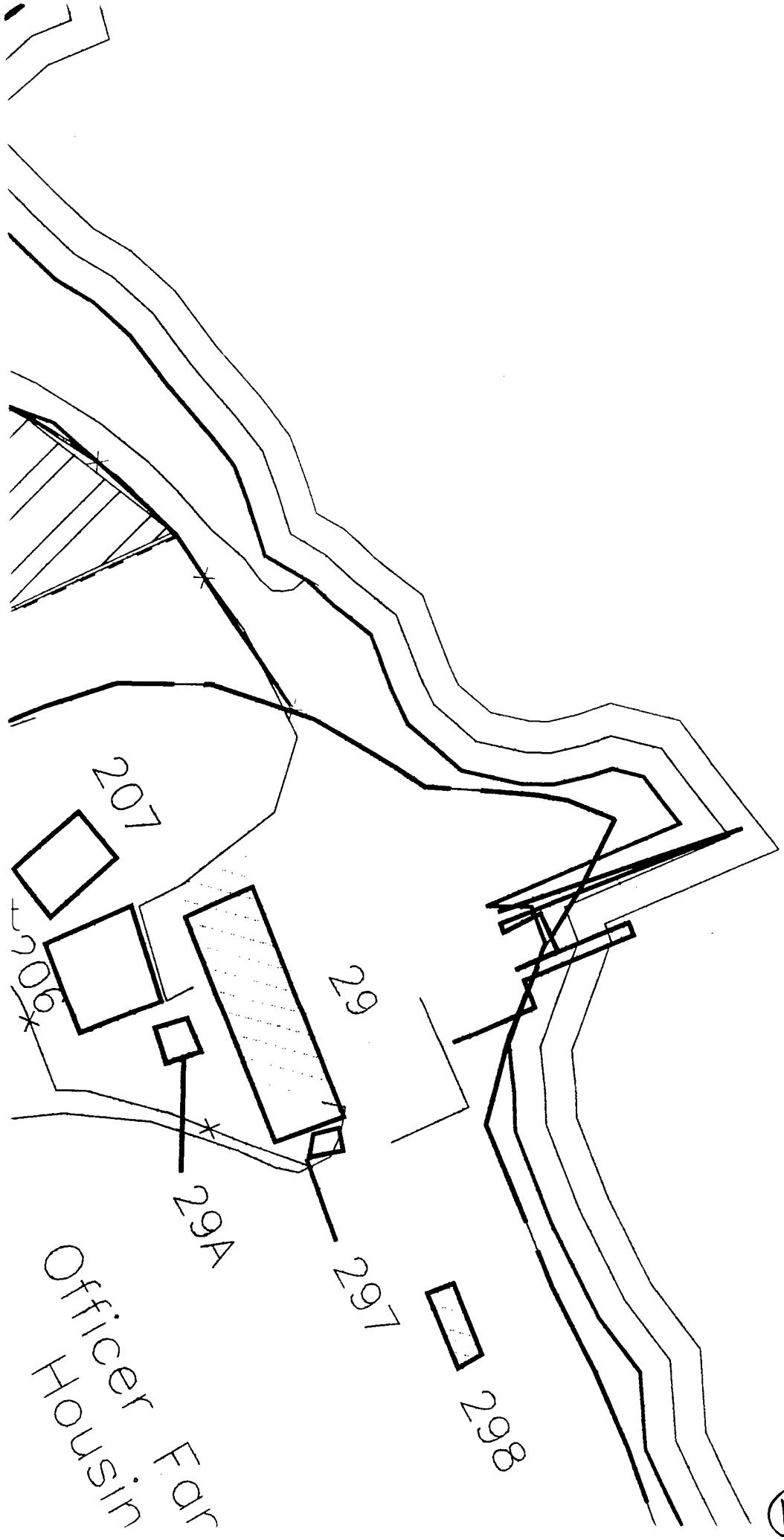
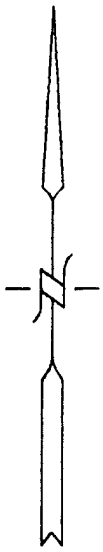


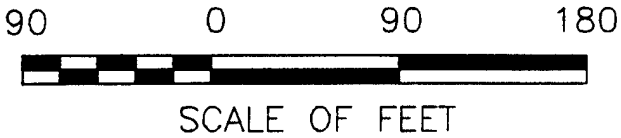
90

REV. NO.	DATE	DESCRIPTION

PROJECT MANAGER: J. PASTORICK

11





REV. NO.	DATE	DESCRIPTION OF REVISION	REV. BY	ENG	CHKD BY	APPVD BY

PROJECT MANAGER: J. PASTORICK	DRAWN BY: D.M.B.	DATE: 02/04/94

INTERNATIONAL TECHNOLOGY CORPORATION

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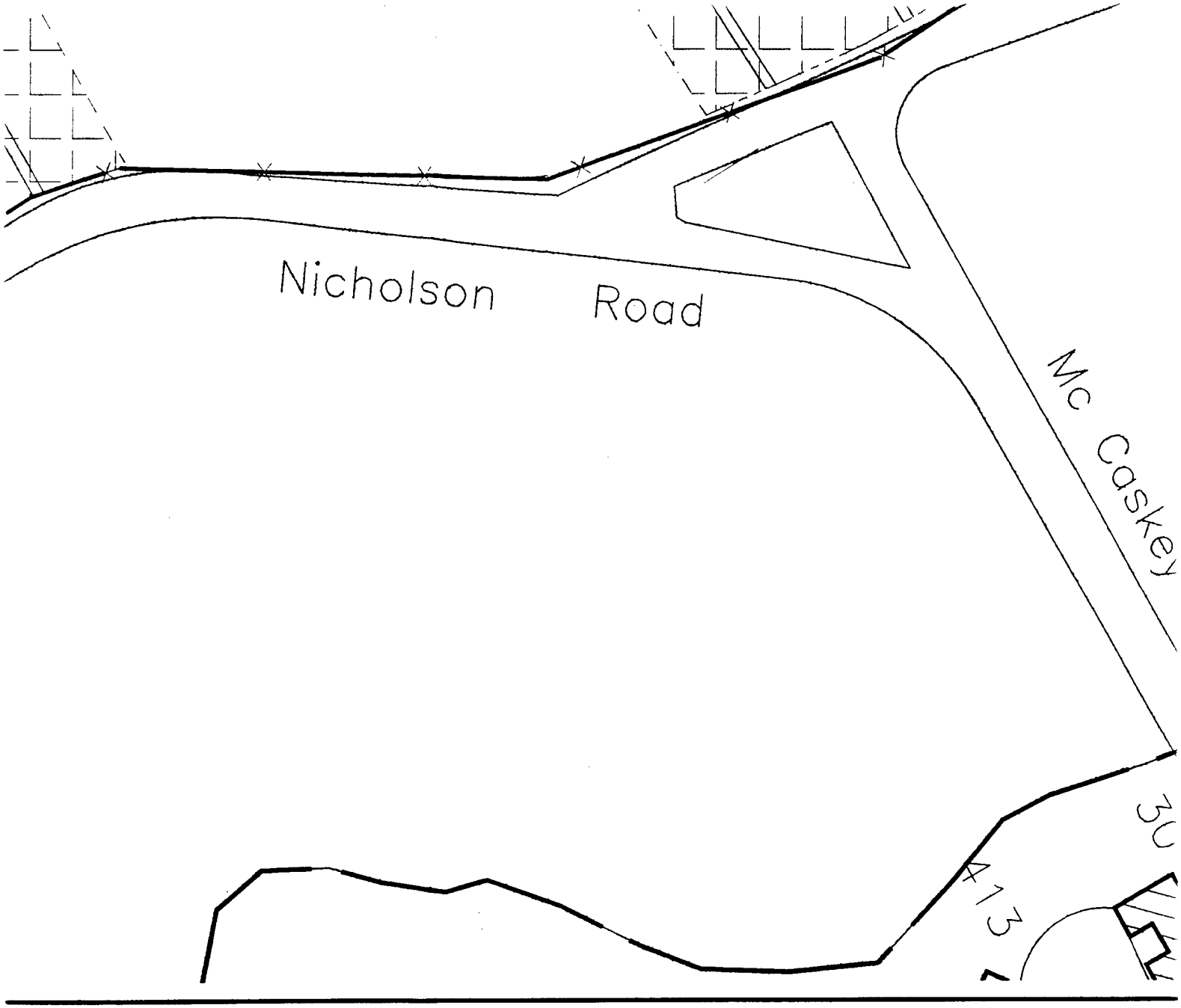
529678E6 08/02/94 11:16am D.M.B.


Nicholson Road
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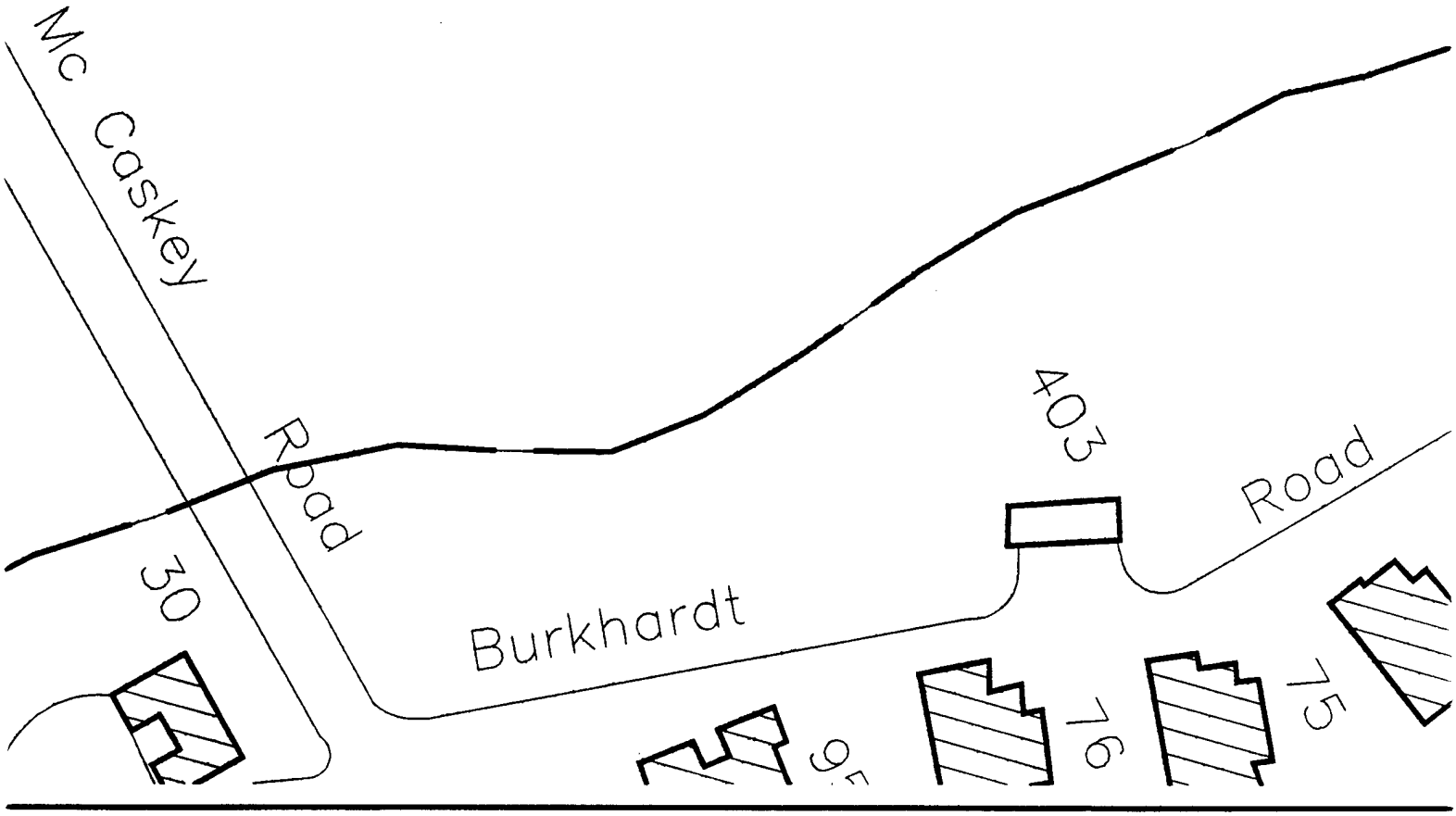
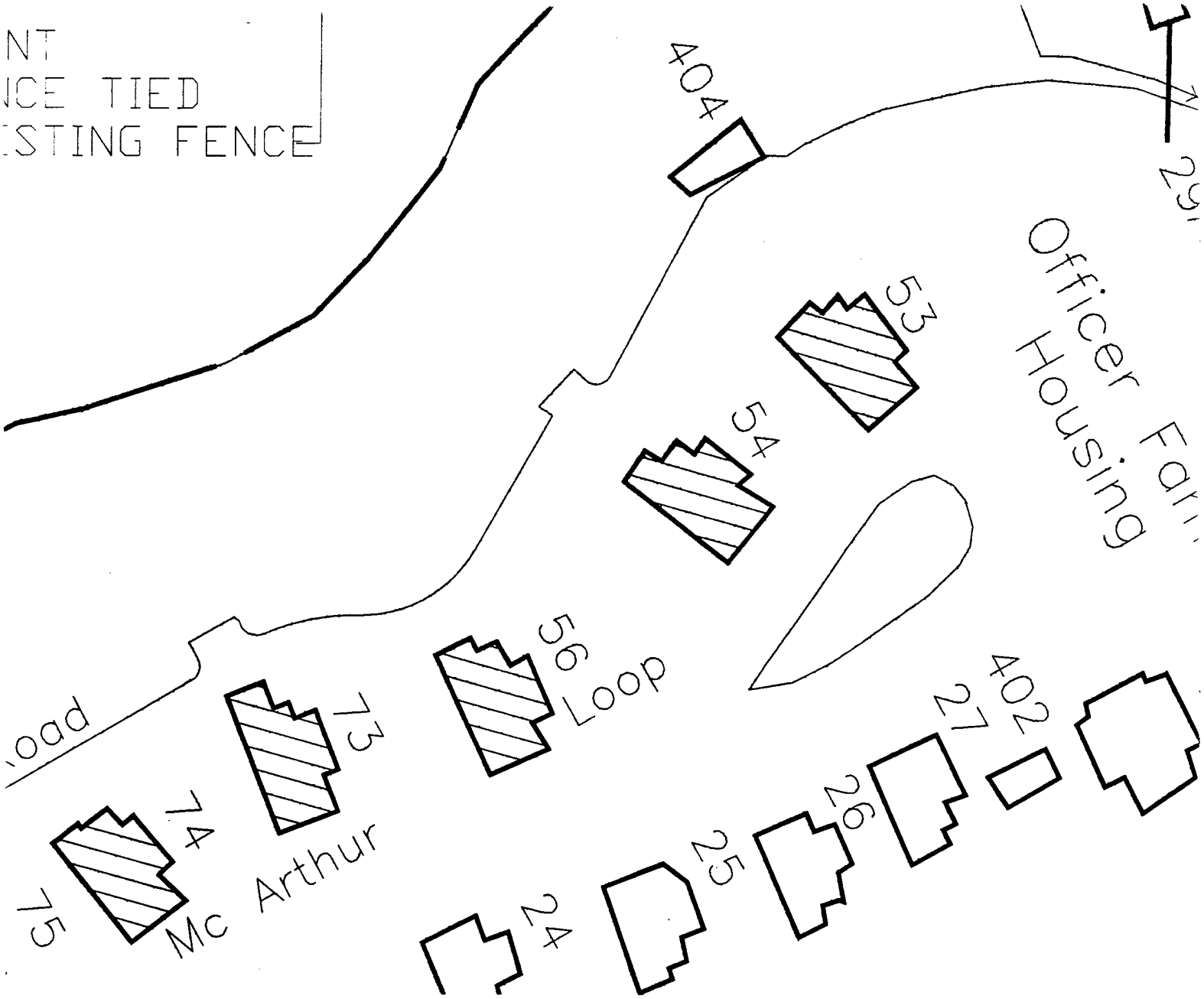
PERMANENT
NEW FENCE TI
INTO EXISTING

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Officer Fam
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Arthur
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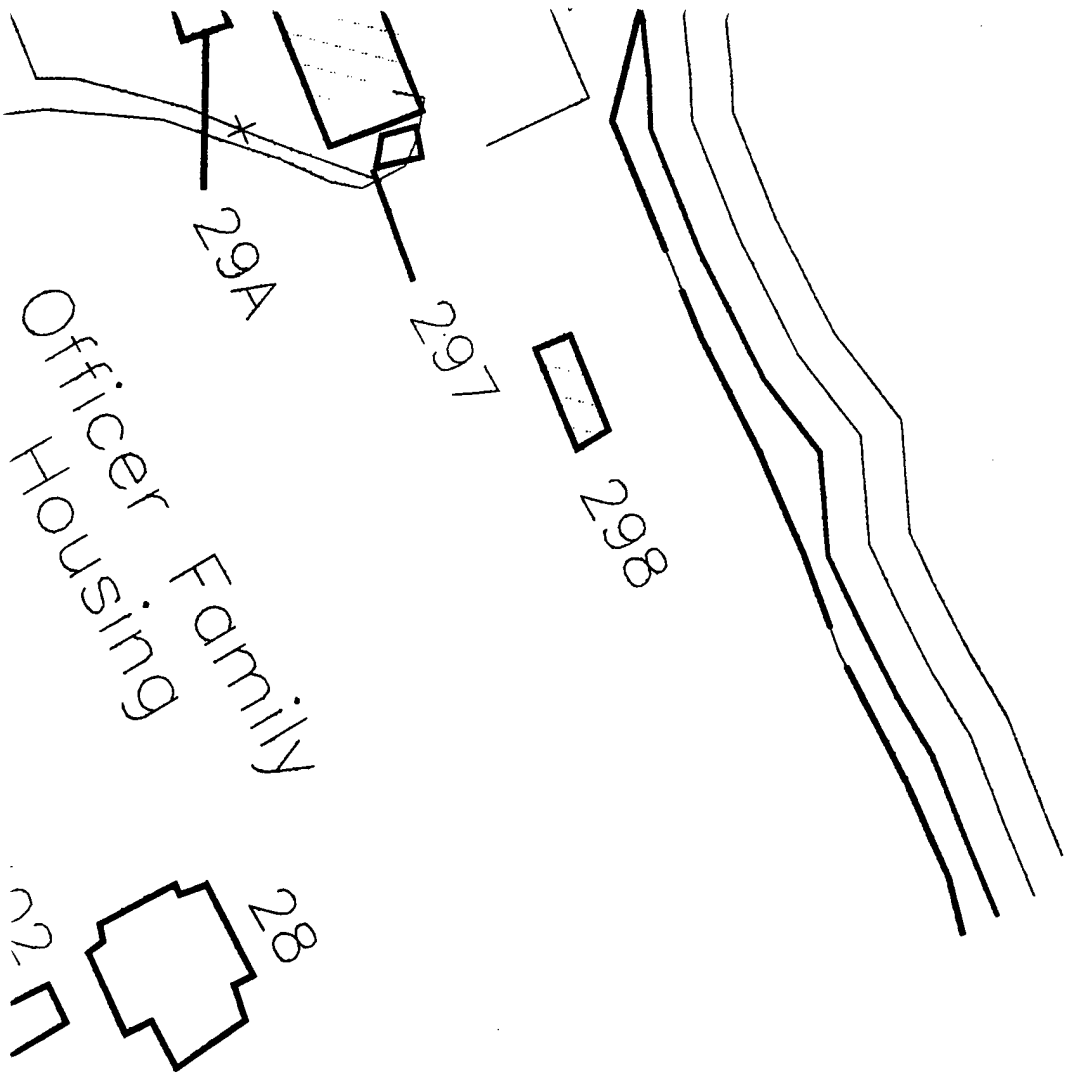

90

REV. NO.	DATE	DESCRIPTION O

PROJECT MANAGER: J. PASTORICK

AREA SUBJECT T

FORT
UXO

PROJECT NO.	FILE NO.	CHK'D
529678	E8	ENG.
		APPVD

17

90 0 90 180

SCALE OF FEET

REV. NO.	DATE	DESCRIPTION OF REVISION	REV. BY	ENG	CHKD BY	APPVD BY

PROJECT MANAGER: J. PASTORICK	DRAWN BY: D.M.B.	DATE: 02/04/94

INTERNATIONAL TECHNOLOGY CORPORATION

FIGURE 5
AREA SUBJECT TO UXO SURFACE SURVEY

Prepared For:

FORT SHERIDAN, ILLINOIS
UXO SURVEY OPERATION
AUGUST 1994

PROJECT NO.	FILE NO.	CHK'D:	DRAWING NUMBER	REV. NO.
529678	E8	ENG. V.S.H.	529678-E8	
		APPVD.		

XREF:E6,E1

18

A B

1

2

3

LEGEND:

SUBSURFACE LANES

SUBAREAS

SURFACE SURVEY

LANDFILL AREA #2

PERMANENT TEMP FEN(

REMOVED PORTION OF TEMP FENCE

UXO LOCATION

1

C D

.CE LANES

SURVEY

AREA #2

IT TEMP FENCE

PORTION OF
CE

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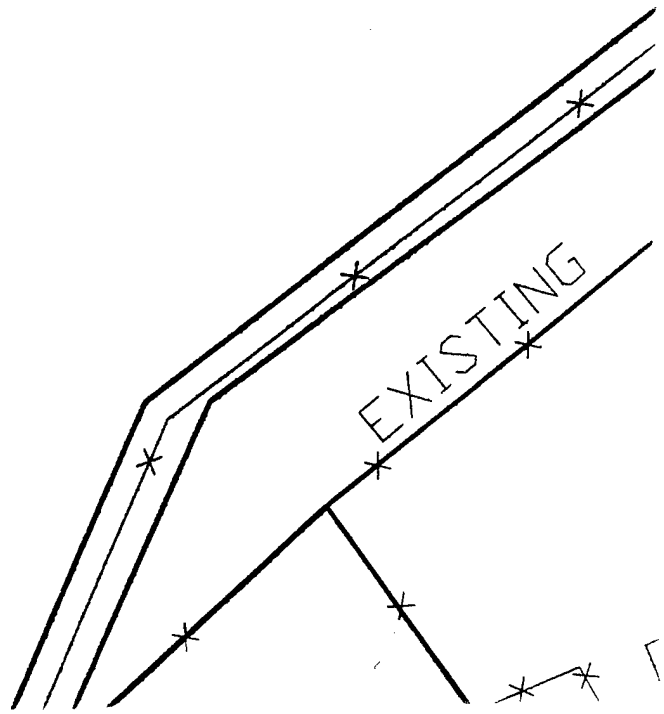

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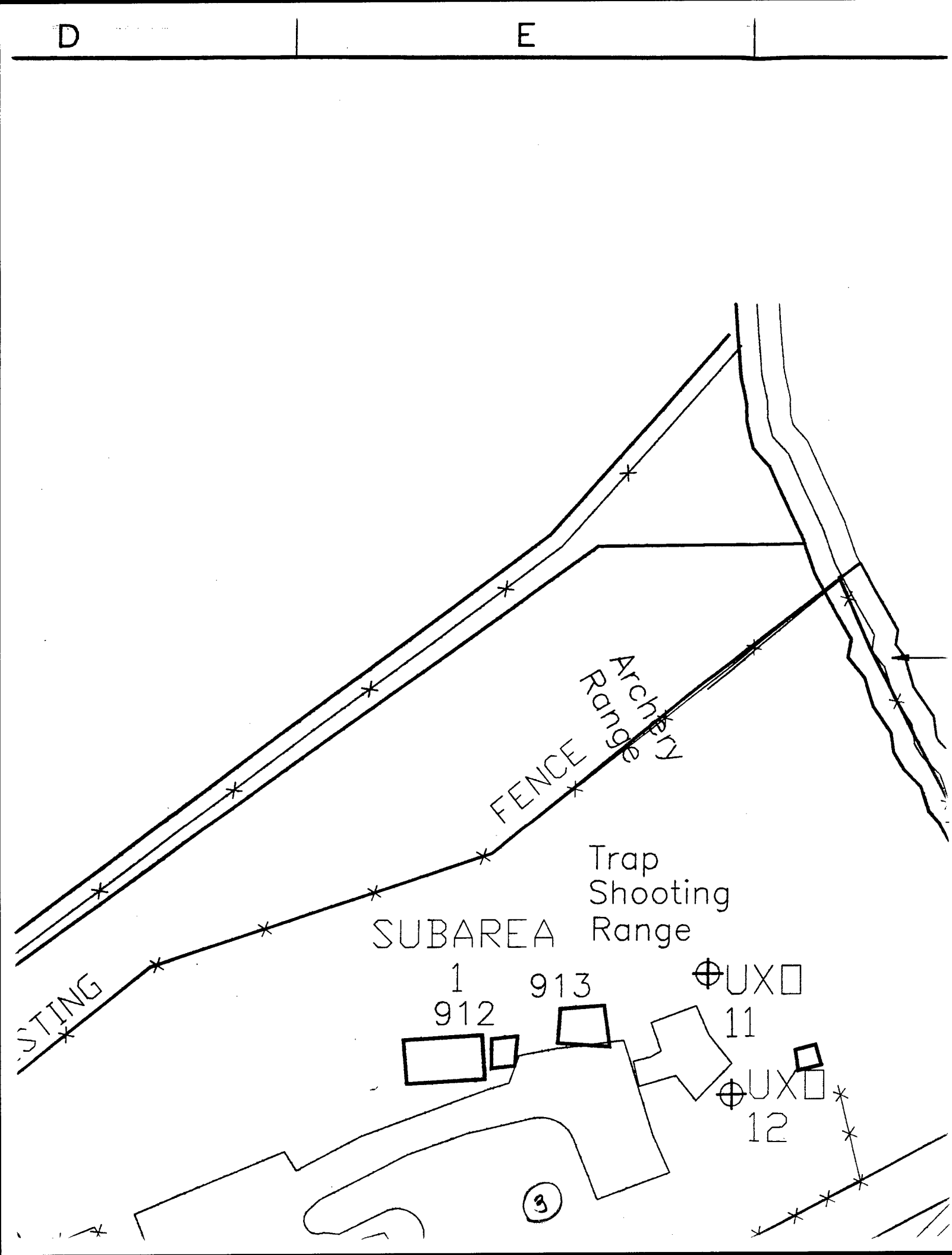
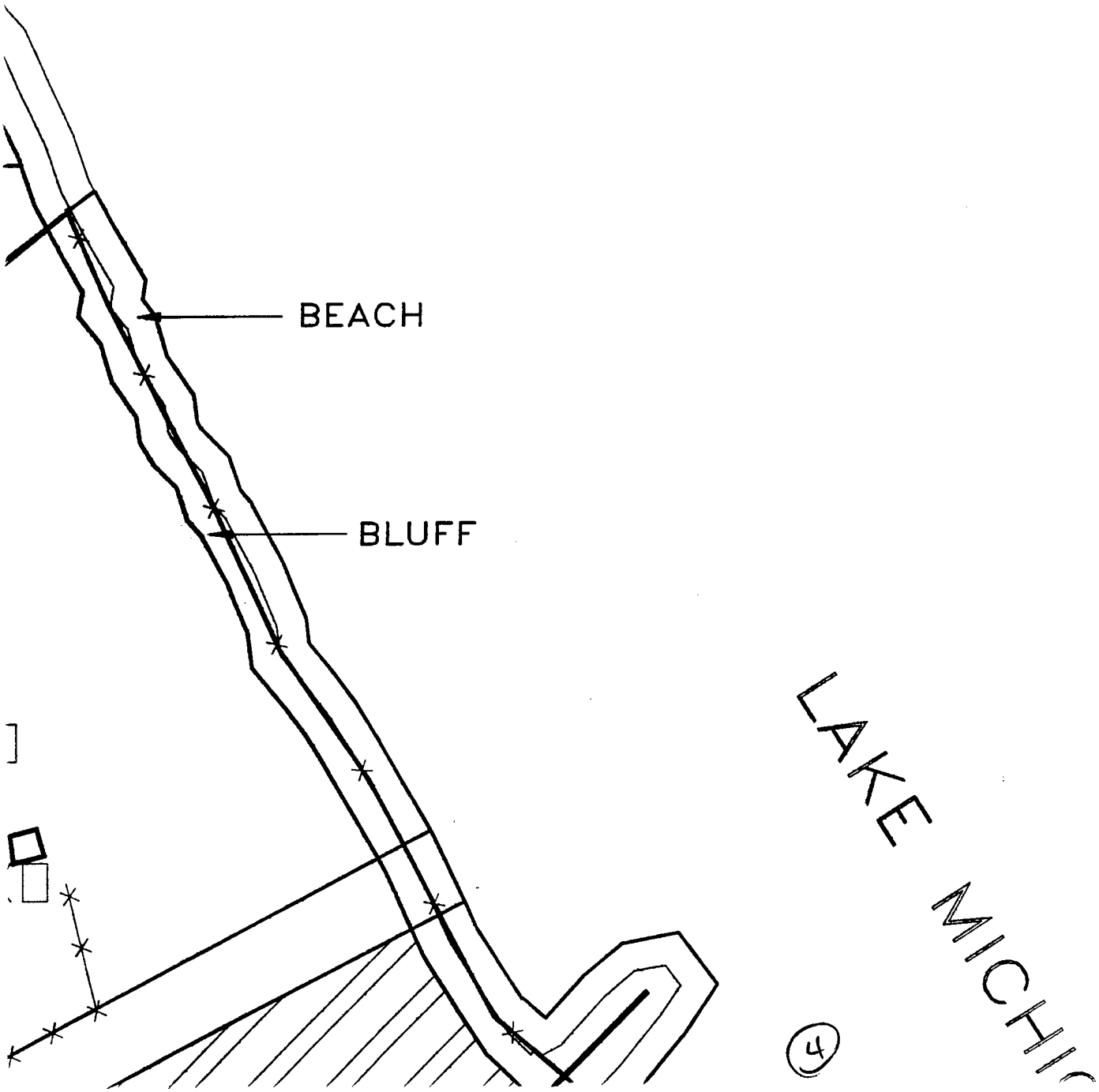

D
E
Archery Range
FENCE
Trap Shooting Range
SUBAREA 1
912
913
UXO 11
UXO 12
STING
3

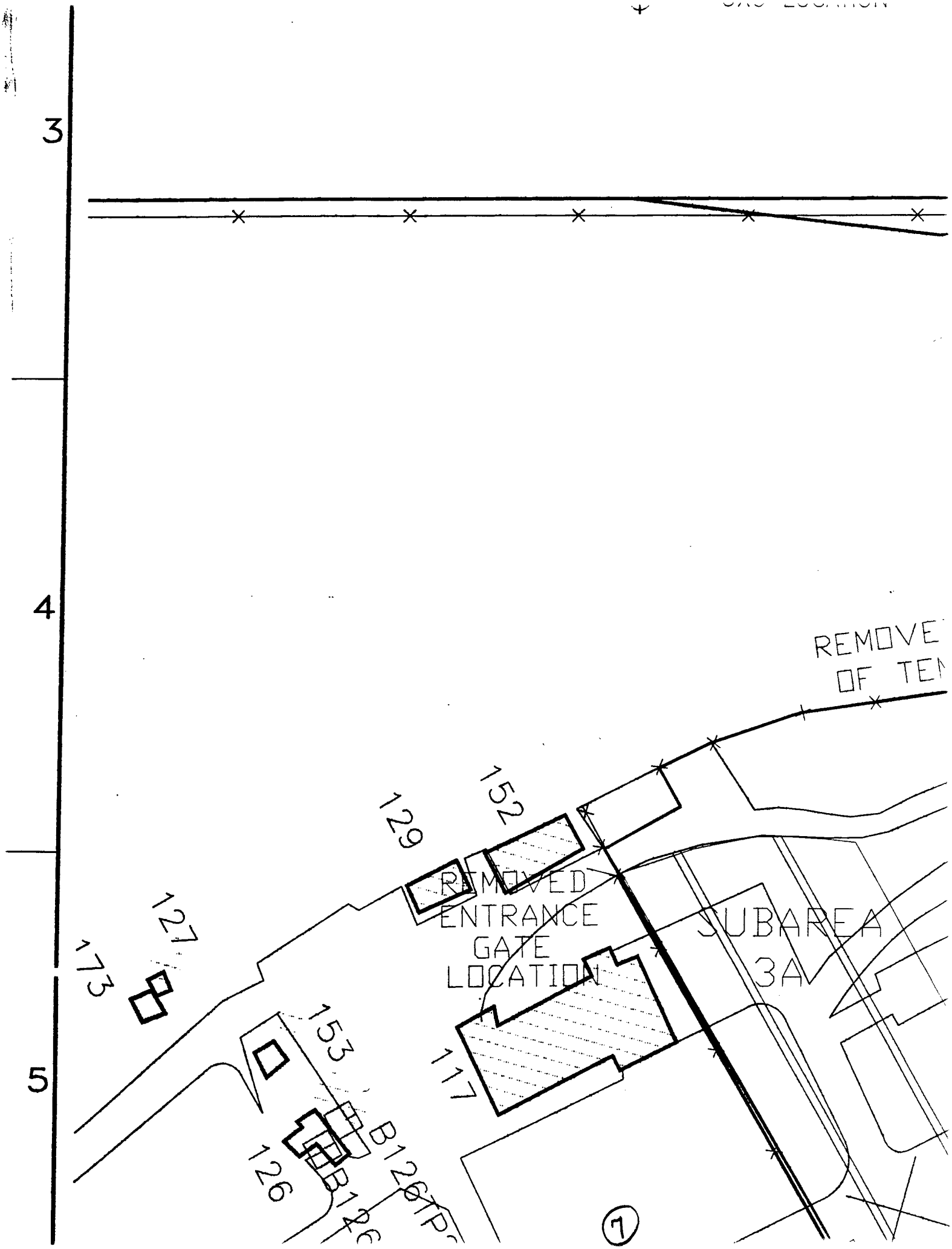
F | G



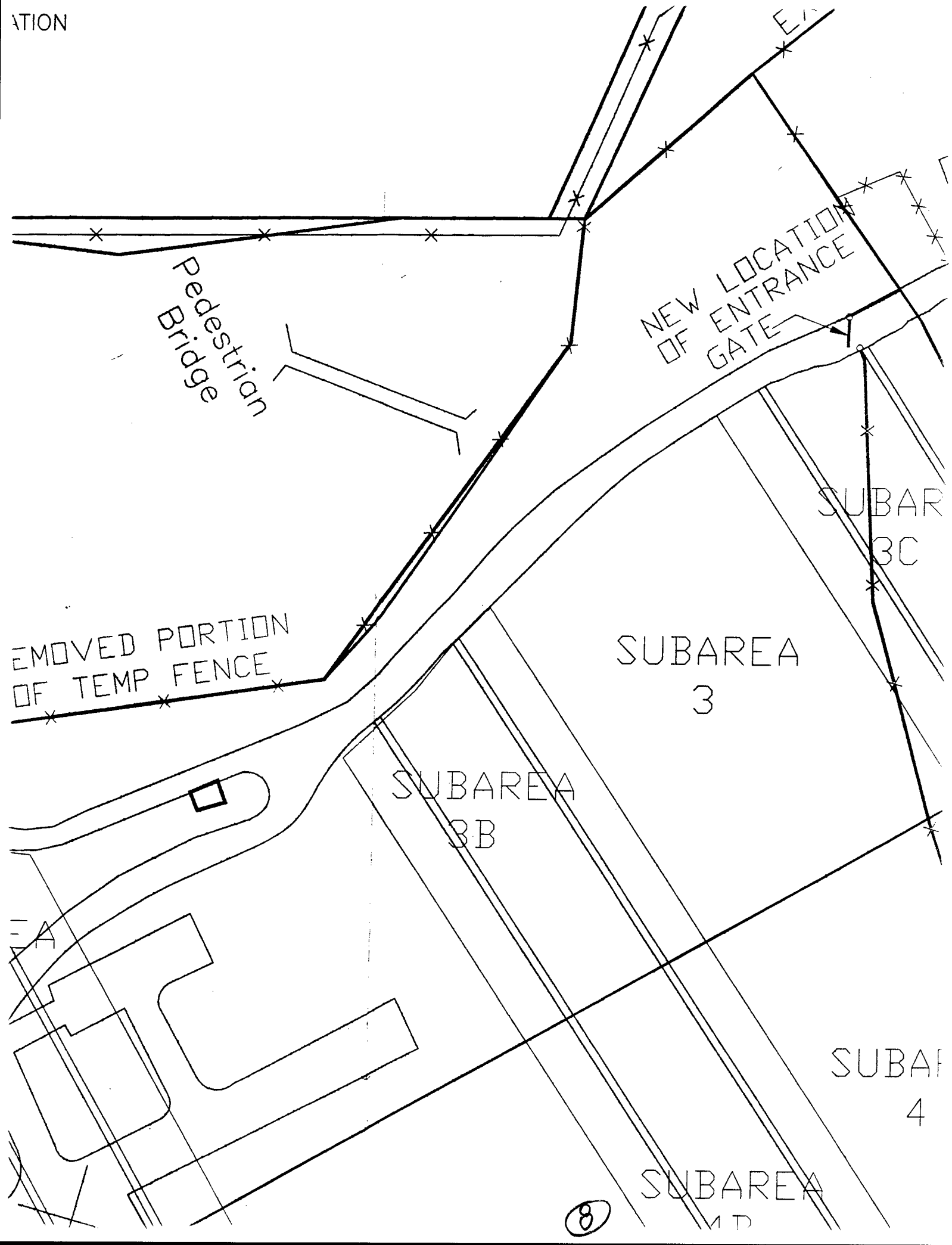
H I

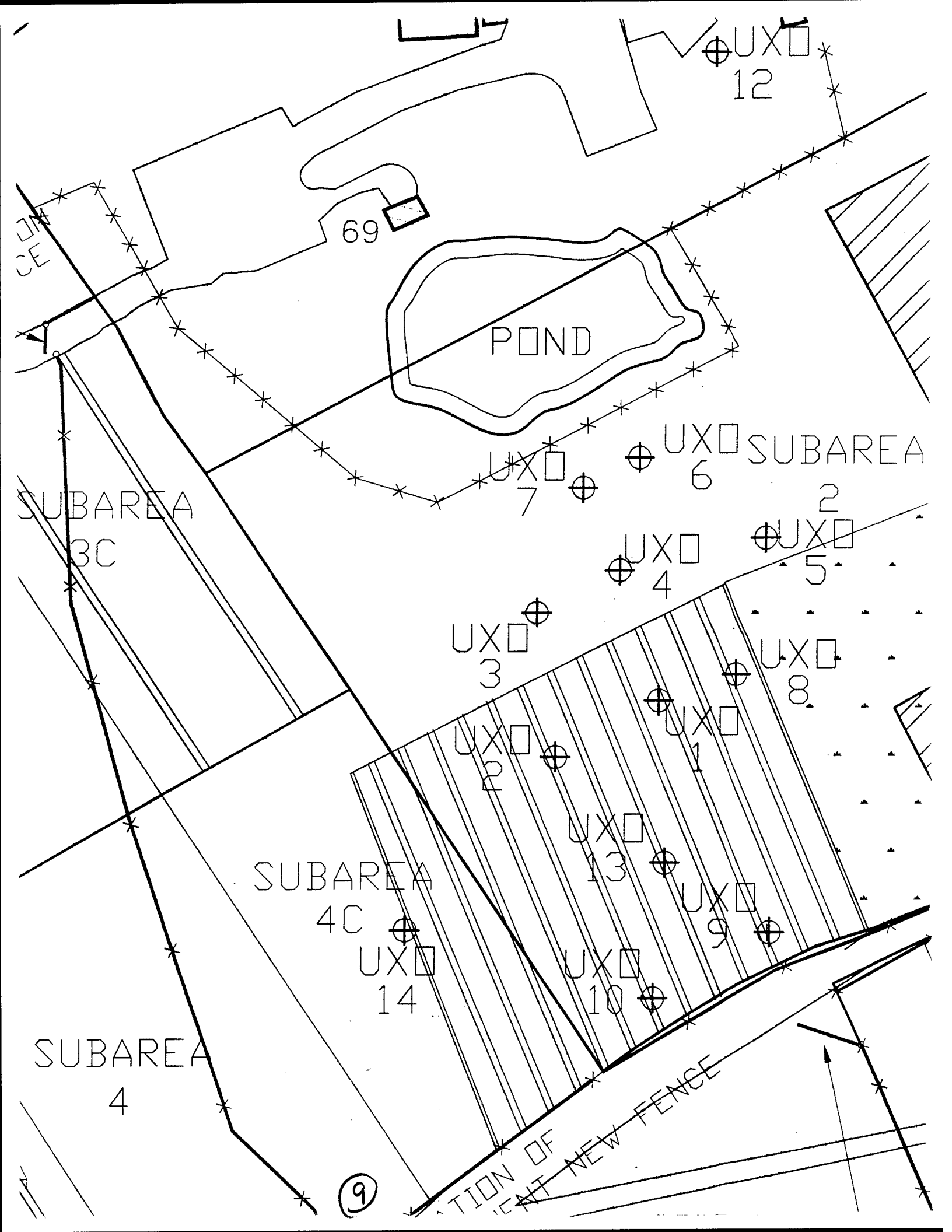
No.	ITEM	DEPTH FOUND AT
UXO 1	3" STOKES MORTAR WITH FUSE MISSING	6"
UXO 2	3" STOKES MORTAR WITH FUSE	8"
UXO 3	3" STOKES MORTAR WITH FUSE MISSING	4"
UXO 4	3" STOKES MORTAR WITH FUSE MISSING	6"
UXO 5	3" STOKES MORTAR WITH FUSE	6"
UXO 6	3" STOKES MORTAR WITH FUSE MISSING	3"
UXO 7	3" STOKES MORTAR WITH FUSE	6"
UXO 8	RIFLE GRENADE – M6A5 WITH FUSE	6"
UXO 9	3" STOKES MORTAR WITH FUSE MISSING	ON SURFACE
UXO 10	3" STOKES MORTAR WITH FUSE	3"
UXO 11	75 MM PROJECTILE	3"
UXO 12	US M4 W/ M1 PRESSURE PLATE WITH FUSE MISSING	3"
UXO 13	3" STOKES MORTAR WITH FUSE MISSING	12"
UXO 14	3" STOKES MORTAR WITH FUSE MISSING	10"

DEPTH FOUND AT
6"
8"
4"
6"
6"
3"
6"
6"
ON SURFACE
3"
3"
3"
12"
10"


3
4
5
REMOVE
OF TE
152
129
REMOVED
ENTRANCE
GATE
LOCATION
SUBAREA
3A
127
173
153
117
126
B126
7

ATION


Pedestrian Bridge
NEW LOCATION OF ENTRANCE GATE
EMOVED PORTION OF TEMP FENCE
SUBAREA 3
SUBAREA 3B
SUBAR 3C
SUBAI 4
SUBAREA


UXO 12
69
POND
UXO 6
SUBAREA 2
UXO 7
SUBAREA 3C
UXO 5
UXO 4
UXO 3
UXO 8
UXO 1
UXO 2
UXO 13
SUBAREA 4C
UXO 9
UXO 14
UXO 10
SUBAREA 4
NEW FENCE
9

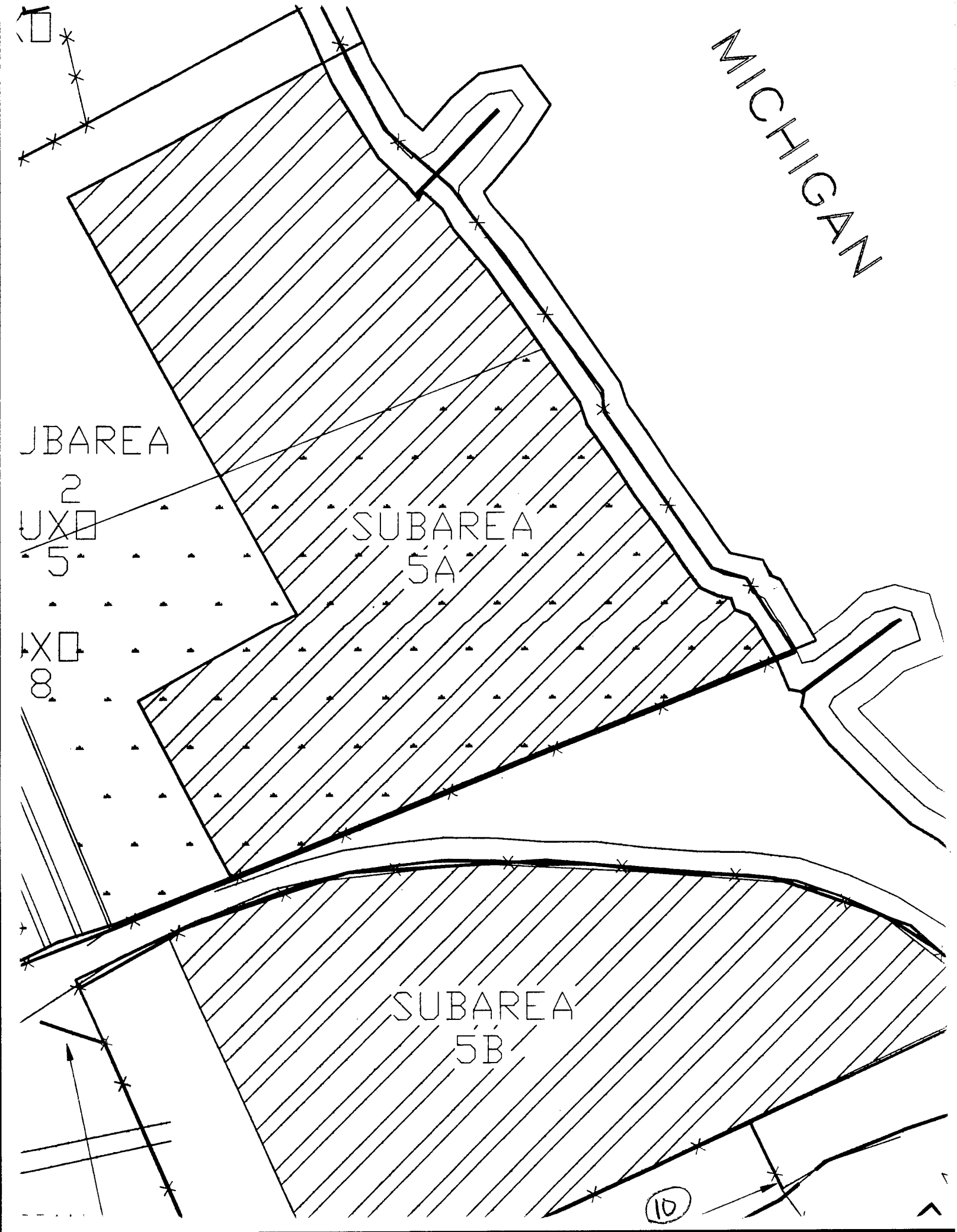
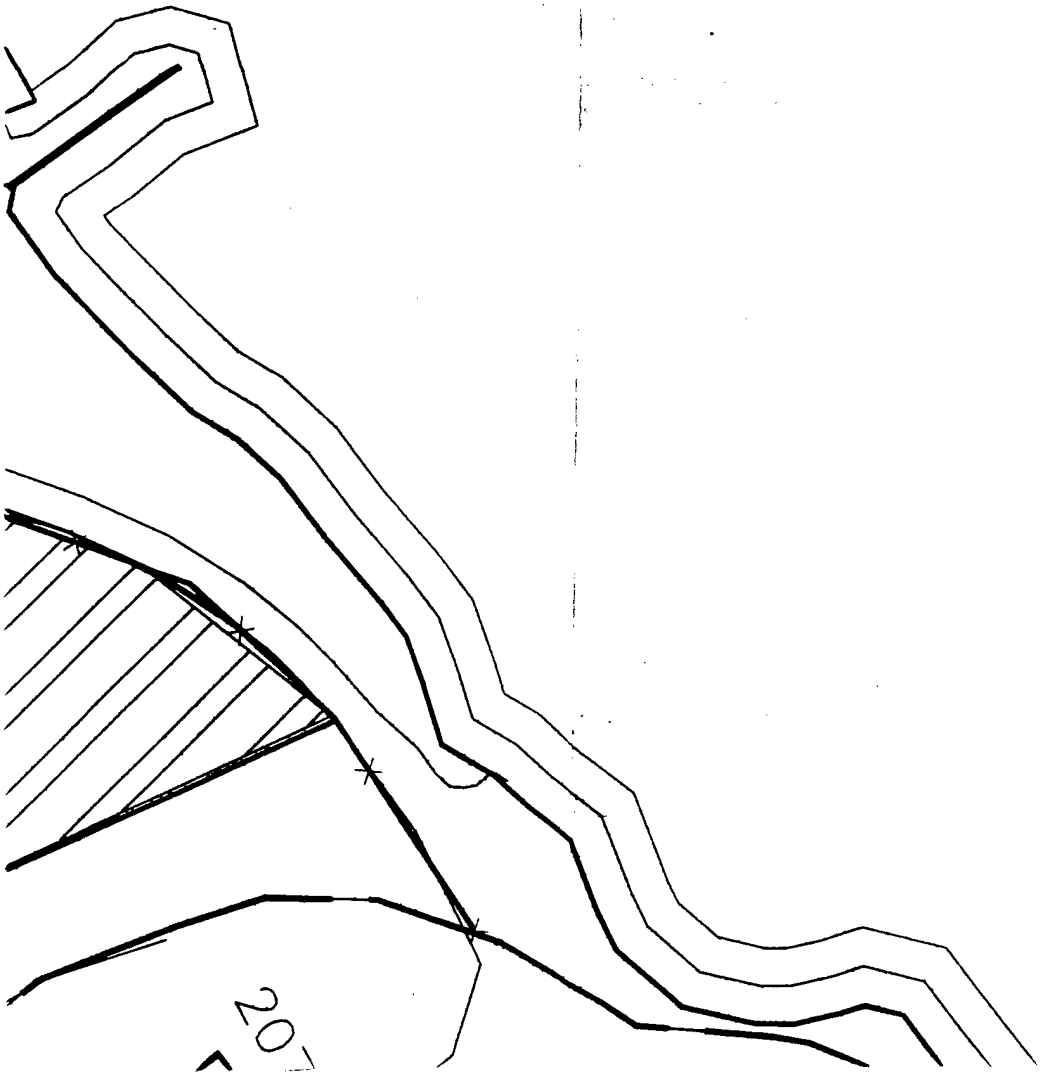

MICHIGAN
JBAREA
2
UXO
5
UXO
8
SUBAREA
5A
SUBAREA
5B
10

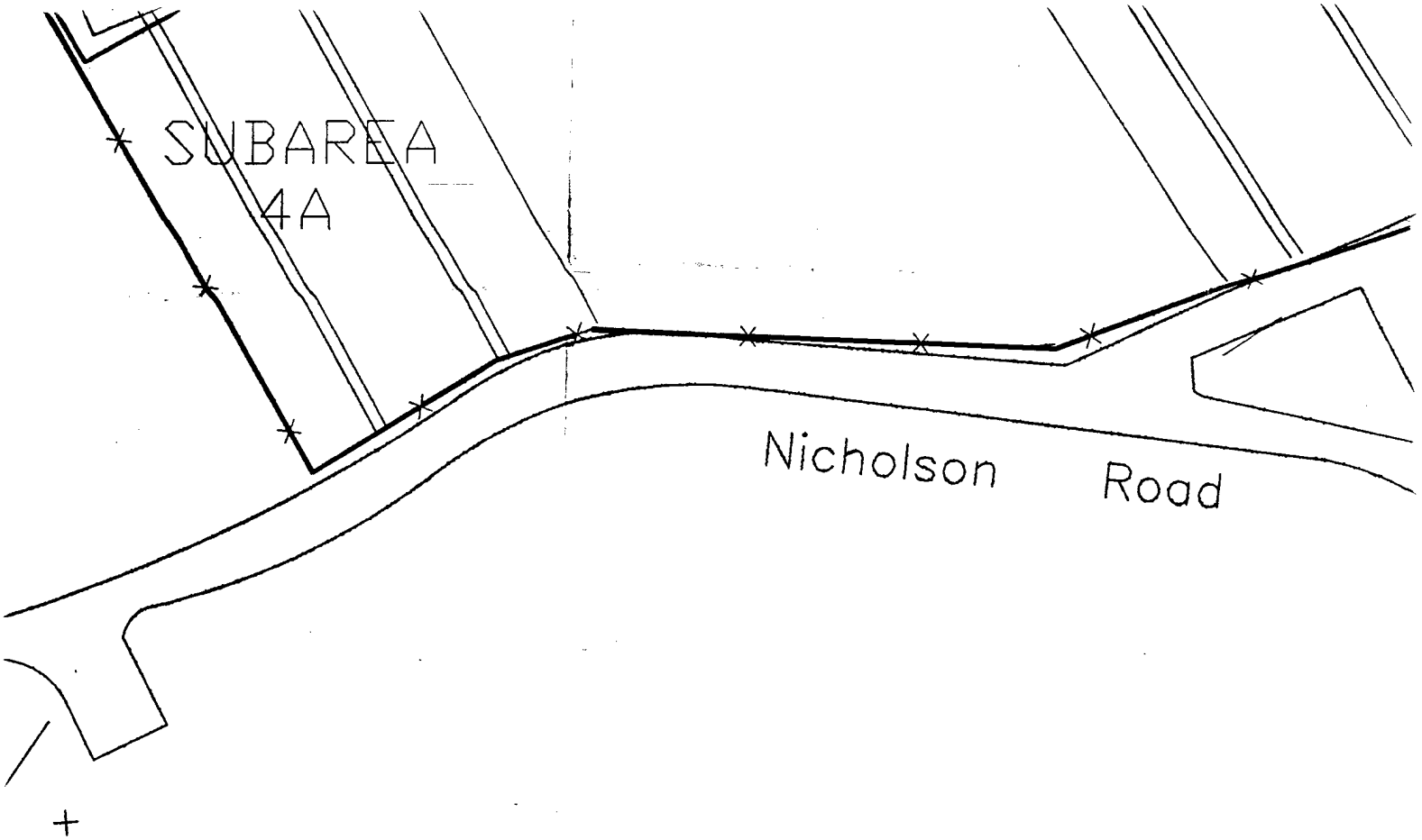
	PLATE WITH FUSE MISSING	
UXO 13	3" STOKES MORTAR WITH FUSE MISSING	12"
UXO 14	3" STOKES MORTAR WITH FUSE MISSING	10"

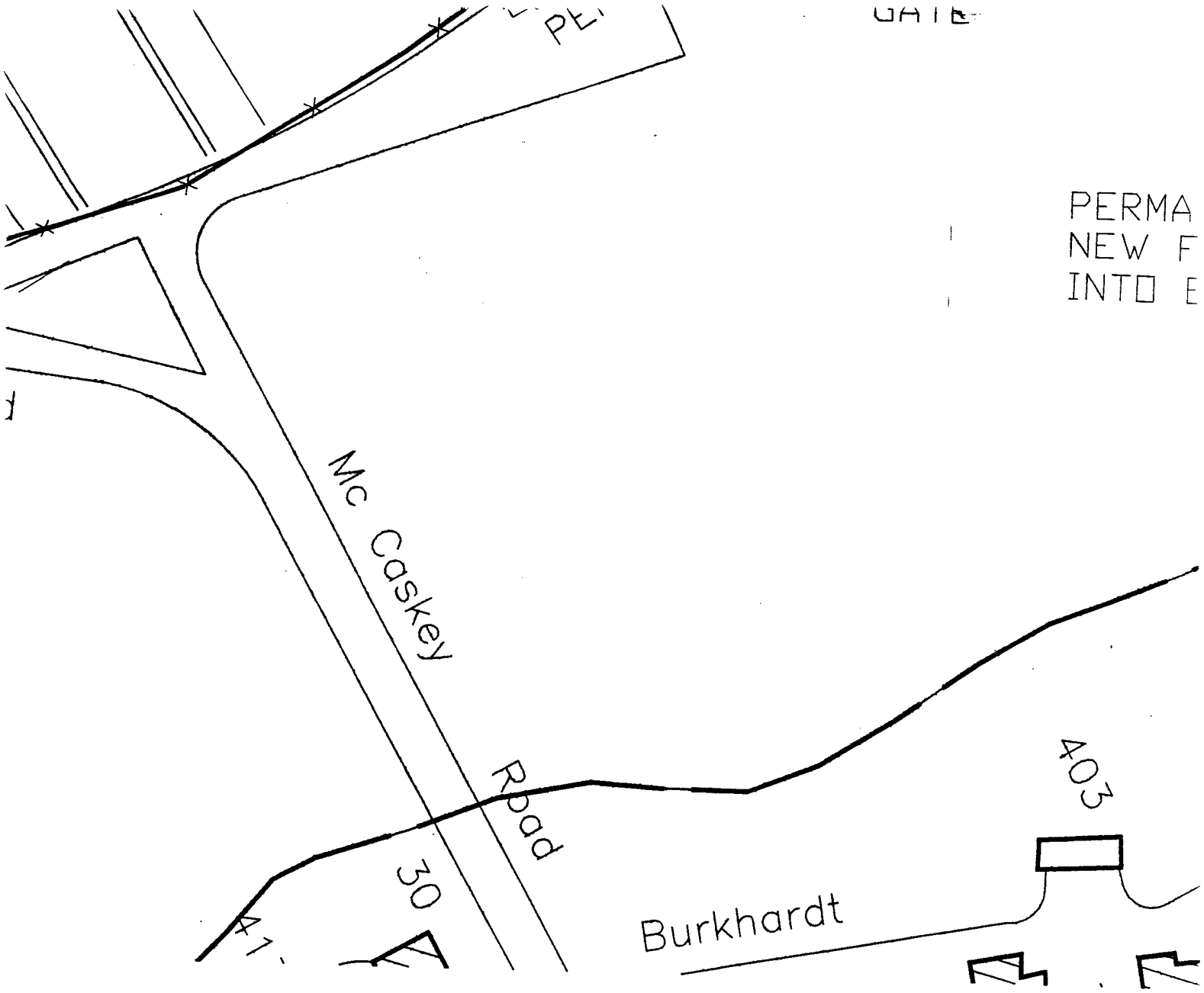


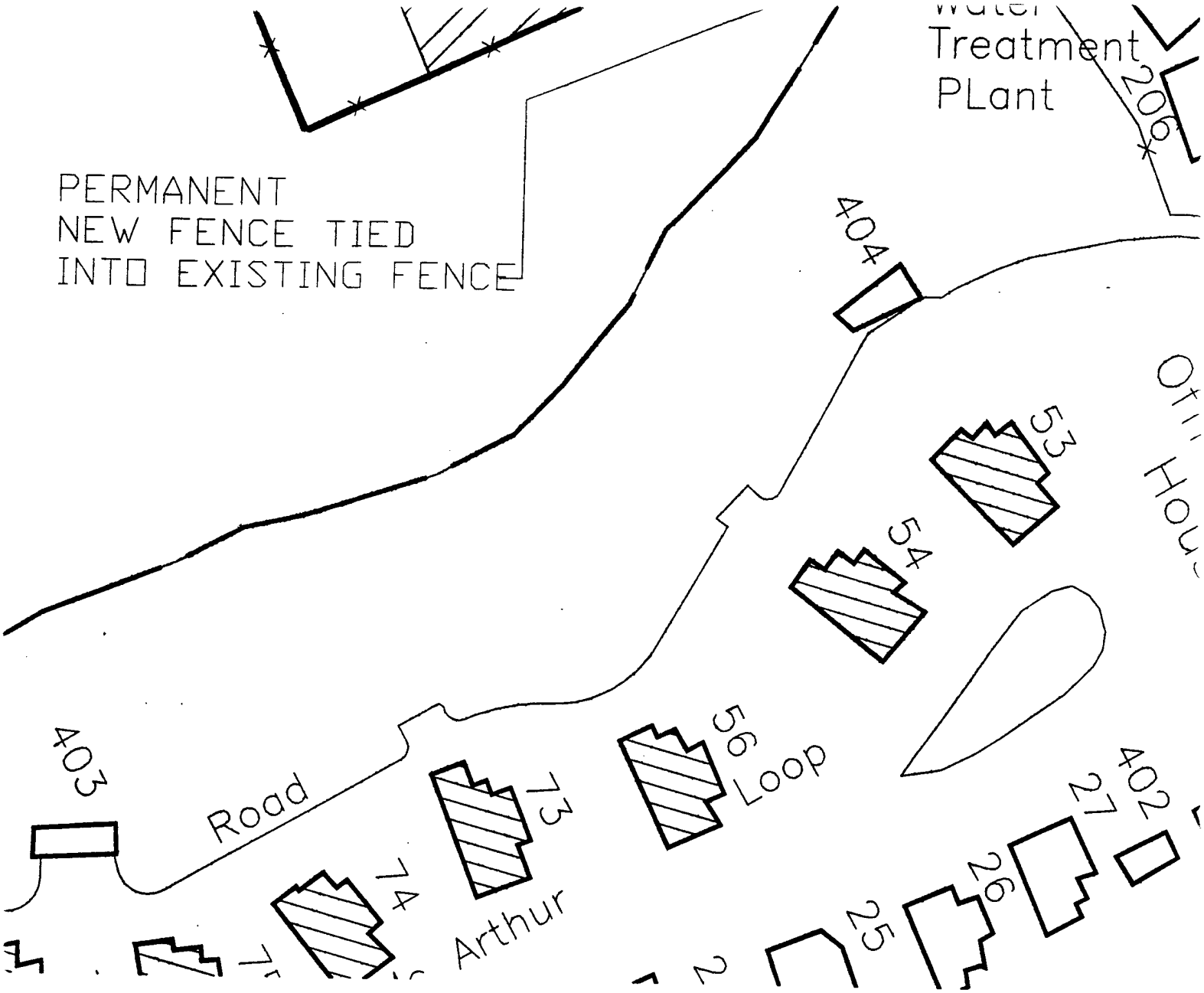
11

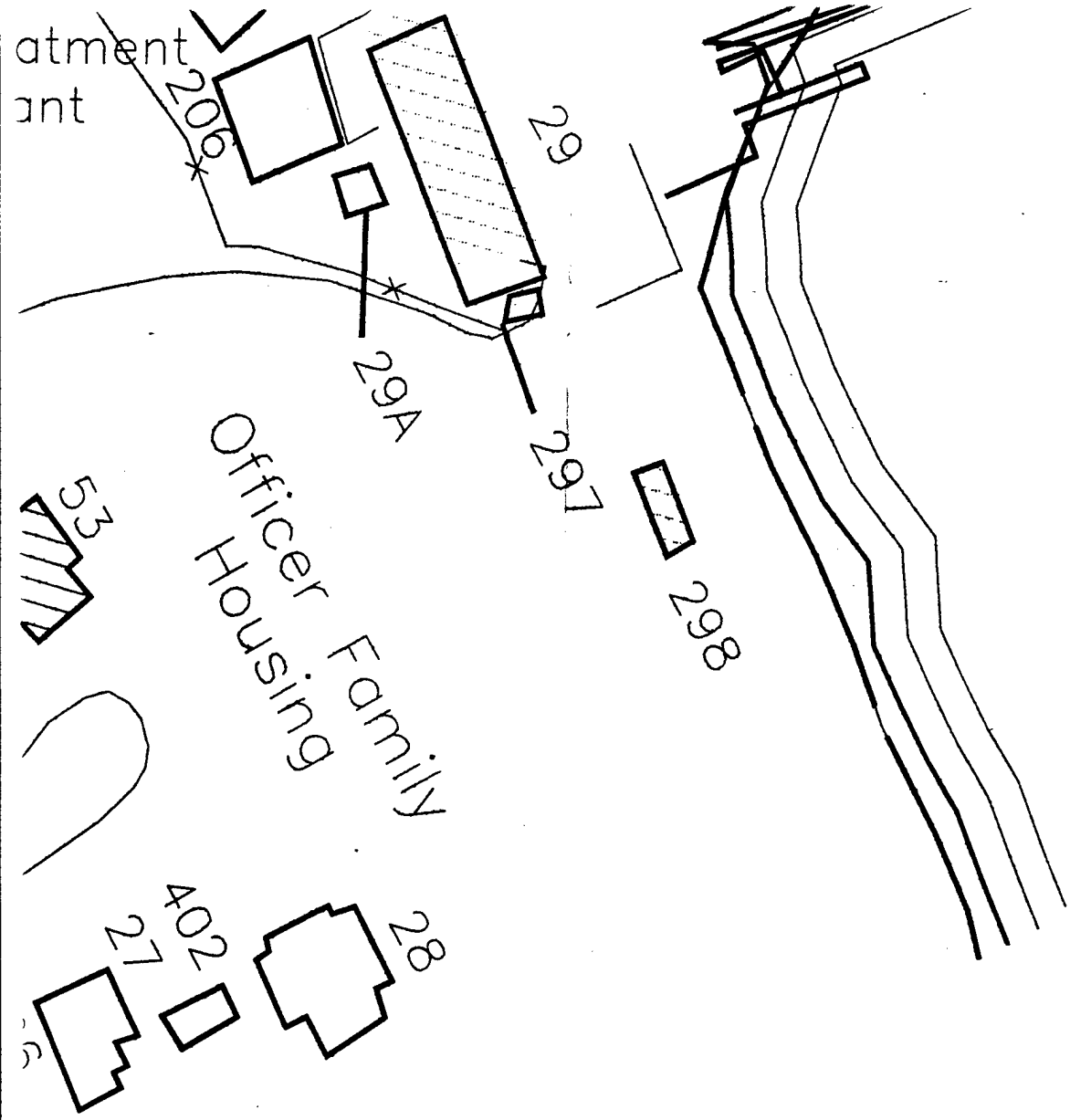
12"
10"

529678E2 08/02/94 11:22am D.M.B.


SUBAREA
4A
Nicholson Road


PERMA
NEW F
INTO E
Mc Caskey
Road
30
41
Burkhardt
403


Treatment
PLant
206
PERMANENT
NEW FENCE TIED
INTO EXISTING FENCE
404
53
54
56
Loop
403
Road
73
74
Arthur
25
26
27
402



REV. NO.	DATE	DE
PROJECT MANAGER:	J. PAST	

UXO SURVI
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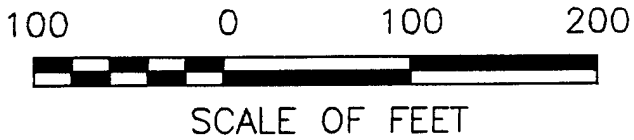
PROJECT NO.	FILE NO
529678	E3

17



REV. NO.	DATE	DESCRIPTION OF REVISION	REV. BY	ENG	CHKD BY	APPVD BY

PROJECT MANAGER: J. PASTORICK	DRAWN BY: D.M.B.	DATE: 02/04/94

INTERNATIONAL TECHNOLOGY CORPORATION

FIGURE 6
UXO SURVEY RESULTS & AREA SUBJECT TO UXO SUBSURFACE SURVEY

Prepared For:

FT. SHERIDAN, ILLINOIS
UXO SURVEY OPERATION
AUGUST 1994

PROJECT NO.	FILE NO.	CHK'D:	DRAWING NUMBER	REV. NO.
529678	E3	ENG. V.S.H. APPVD.	529678-E3	

XREF:E1,E2

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